

Evaluation of Sulfur-in-Fuel Oil Regulation
Revision (Rhode Island)

Atlantic Environmental Associates, Inc.
Waltham, MA

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(RHODE ISLAND)

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I. EXECUTIVE SUMMARY

Walden Division of Abcor, Inc. was retained by EPA, Region I and the Rhode Island Division of Air Resources (DAR) to perform a study of the feasibility of permitting fuel oil with 2.2 percent sulfur for various major sources in the state of Rhode Island.* Existing regulations limit the fuel sulfur content to 1.0 percent. The scope of the study and its methodology were defined in a technical meeting between EPA, Region I representatives, Rhode Island DAR representatives, and Walden representatives on May 28, 1979. The purpose of the study is to provide a technical basis for a potential amendment to the Rhode Island State Implementation Plan (SIP) concerning variances for combustion of high sulfur fuel. The key aspects of the study are briefly summarized below:

- ° SO₂ impacts alone were evaluated with respect to the National Ambient Air Quality Standards (NAAQS) and Prevention of Significant Deterioration (PSD) increments. Both of these rulings apply to the Providence area (and the entire state) since the entire AQCR is declared attainment with respect to SO₂.
- ° Candidate sources for fuel conversion are defined as sources consuming at least 400,000 gallons/year of No. 6 fuel oil in the state of Rhode Island. There are 55 candidate sources identified by the R.I. DAR. Area sources are not considered as candidates for fuel conversion in this study.
- ° Four separate geographic areas are examined in the state, for which SO₂ impacts are defined on an individual basis and an interactive basis. These areas are Metropolitan Providence, Newport-Jamestown, Southwest Rhode Island, and Northwest Rhode Island.
- ° Three separate fuel "conversion scenarios" are examined:

* Publication of the final study report was performed by Atlantic Environmental Associates, Inc.

- 1) Major - all candidate sources with a design heat input capacity exceeding 100 million BTU/hour,
 - 2) Medium - all candidate sources with a design heat input capacity exceeding 50 million BTU/hour (includes "major"), and
 - 3) Small - all candidate point sources.
- ° SO₂ air quality data is obtained from the Rhode Island continuous monitoring network (for 1978) and from the intermittent monitoring network (for 1976) to estimate background SO₂ levels for NAAQS determinations.
- ° RAM (urban) modeling was performed in the Providence study area and RAMR (rural) model was applied for two of the non-metropolitan areas. The remaining area (with a single facility in N.W. Rhode Island) was modeled with CRSTER. One year of meteorological data (1974) was utilized throughout the study, excepting N.W. R.I., where 5 years of meteorological data was employed (1970-4). Three averaging periods were studied: annual, 24-hour, and 3-hour.

The results of RAM modeling for all geographic areas and scenarios is discussed below. The major conclusions are as follows:

1. Fuel sulfur content revision is not viable in the Providence area for any scenario due to:
 - a) Exceedance of PSD increments and NAAQS standards for the highest estimate for all averaging periods and scenarios, excepting the 3-hour PSD increment and NAAQS standard for Scenario 1 (24-hour standards are the most restrictive in all cases; the 24-hour PSD increment was exceeded 73 times in a year's time for Scenario 1).
 - b) Exceedance of both 24-hour PSD increments and 24-hour NAAQS standards for the highest, second-high estimate. The "major" sources were by far the most significant contributors to maximum estimated concentrations in Providence;

in the case of the 24-hour PSD increment, for example, the "major" sources contributed 98 percent of the maximum total concentration estimate of 236 ug/m^3 .

2. Fuel sulfur content revision is viable in the non-metropolitan areas for all scenarios. (The areas examined are Newport, S.W. Rhode Island, and N.W. Rhode Island.) This assessment is based on the modeling results for each scenario and includes the impact of Providence on non-metropolitan areas. Source interaction between non-metropolitan areas is not included in these results since it is negligible with respect to the standards. The maximum consumption of the 24-hour PSD increment (the controlling standard) for the Newport, S.W. R.I. and N.W. R.I. study areas is 71 percent, 26 percent and 35 percent, respectively.

II. INTRODUCTION

The existing sulfur-in-fuel oil regulations for the state of Rhode Island [1] limit sulfur content to 1.0 percent for both area and point sources. In part as a result of this regulation, the Rhode Island portion of the Metropolitan Providence Interstate Air Quality Control Region (AQCR)* is presently designated as attainment with respect to sulfur dioxide (SO₂) [2]. The effectiveness of this regulation can be deduced from the 40 percent decline in the annual arithmetic mean SO₂ measured in Providence from 1971 (the year of enactment) to 1975. The purpose of this study is to examine the air quality impact on SO₂ concentrations due to a relaxation of the sulfur content level to 2.2 percent for a pre-defined set of point sources in the state.

Specifically, 55 point sources identified by the R.I. Division of Air Resources (DAR) as consumers of at least 400,000 gallons of No. 6 fuel oil annually are designated "candidate" sources for combustion of 2.2 percent sulfur oil. Current EPA-recommended models and modeling techniques were applied to determine the air quality impact for various subsets of the candidate sources (based on source capacity and geographic location) which are termed "conversion scenarios". Area sources are not considered as candidates for conversion to higher sulfur fuel in this study.

The chief output of the study is an assessment of the potential impacts on air quality with respect to the applicable air pollution regulations (National Ambient Air Quality Standards [NAAQS] and Prevention of Significant Deterioration [PSD] Increments) for each conversion scenario. Thus, the report provides a technical basis for a potential amendment to the existing Rhode Island State Implementation Plan (SIP) concerning the sulfur-in-fuel limitations. However, as this study is directed solely towards the SO₂ impacts of fuel-switching, analysis of TSP impacts must also be undertaken before a SIP amendment is proposed.

* Includes the entire state of Rhode Island and portions of Southeastern Massachusetts.

III. STUDY METHODOLOGY

The methodologies and scope of work for this study were defined in a technical meeting (5/28/79) between EPA, Region I representatives, Rhode Island DAR personnel, and representatives of the Walden Division of Abcor, Inc. The study plan as defined in that meeting has been strictly adhered to; hence, the work done for this study is consistent with EPA guidelines for State Implementation Plan (SIP) revision work, and with the requirements of the Rhode Island DAR. In this section of the report the study outline is presented and all methodologies and assumptions described. In part (A), candidate sources, geographic areas, and fuel conversion scenarios are described. The methods for determining PSD and NAAQS compliance are given in part (B). The computer models and modeling techniques, along with other aspects of the study plan are defined in part (C). Part (D) is a summary of the procedure used for plotting receptor grids for each study area.

A. CANDIDATE SOURCES, GEOGRAPHIC AREAS, CONVERSION SCENARIOS

The candidate sources for a potential conversion from 1.0 to 2.2 percent fuel oil are all those point sources identified by the Rhode Island Department of Air Resources (DAR) with an annual average fuel oil consumption (No. 6) exceeding 400,000 gallons. The R.I. DAR has identified 55 candidate sources according to these criteria, the majority of which are located in the metropolitan Providence area. The cutoff level of 400,000 gallons/year is specified because the SO₂ emission inventory information is most readily available to the state DAR for these sources. The facility names and locations are given in Table 3-1.

Area sources are not considered candidate sources for conversion to higher sulfur fuel at this time, chiefly due to potential combustion and maintenance problems that can result from such a conversion. In the context of this study, area sources are defined as all those SO₂ emission sources

TABLE 3-1
CANDIDATE CONVERSION SOURCES

----- Facility -----			
No.	Description	Location	Modeling Group
1.	American Hoechst Corp.	Coventry	Metropolitan
2.	American Insulated Wire	Pawtucket	Metropolitan
3.	Arkwright, Inc.	Coventry	Metropolitan
4.	ATC Petroleum	Providence	Metropolitan
5.	Bird & Son, Inc.	E. Providence	Metropolitan
6.	Bostich, Div. of Textron	E. Greenwich	Metropolitan
7.	Bradford Dye Association	Westerly	Southwestern R.I.
8.	Brown University	Providence	Metropolitan
9.	Ciba-Geigy Corp.	Cranston	Metropolitan
10.	Colfax, Inc.	Pawtucket	Metropolitan
11.	Collyer Insulated Wire	Lincoln	Metropolitan
12.	Corning Glass Works	Lincoln	Metropolitan
13.	Cranston Print Works	Cranston	Metropolitan
14.	Erco Corp.	Pawtucket	Metropolitan
15.	National Bottle Co.	Coventry	Metropolitan
16.	Gorham, Div. of Textron	Providence	Metropolitan
17.	ITT Royal Electric	Pawtucket	Metropolitan
18.	Kaiser Aluminum Corp.	Portsmouth	Newport
19.	Kenyon Piece Dyeworks	Richmond	Southwestern R.I.
20.	Ladd Center	Exeter	Southwestern R.I.
21.	Leesona Corp.	Warwick	Metropolitan
22.	Leviton Manufacturing	Warwick	Metropolitan
23.	Malina Company	Providence	Metropolitan
24.	Memorial Hospital	Pawtucket	Metropolitan
25.	Miriam Hospital	Providence	Metropolitan
26.	Mobil Oil	E. Providence	Metropolitan
27.	Narragansett Brewery	Providence	Metropolitan
28.	Narragansett Electric, South Street	Providence	Metropolitan
29.	Narragansett Electric, Manchester Street	Providence	Metropolitan
30.	Newport Hospital	Newport	Newport
31.	Owens Corning Fiberglas	Cumberland	Metropolitan
32.	Providence College	Providence	Metropolitan

TABLE 3-1 (CONT.)
CANDIDATE CONVERSION SOURCES

----- Facility -----			
No.	Description	Location	Modeling Group
33.	Providence Gravure	Providence	Metropolitan
34.	Providence Housing Authority	Providence	Metropolitan
35.	R.I. Central Power Plant	Cranston	Metropolitan
36.	R.I. College	Providence	Metropolitan
37.	R.I. Hospital	Providence	Metropolitan
38.	R.I. Port Authority	N. Kingstown	Southwestern R.I.
39.	Rochambeau Worsted	Lincoln	Metropolitan
40.	St. Joseph's Hospital-Fatima	N. Providence	Metropolitan
41.	St. Joseph's Hospital-Prov.	Providence	Metropolitan
42.	Slater Dye Works	Pawtucket	Metropolitan
43.	Teknor Apex	Pawtucket	Metropolitan
44.	Texaco	Providence	Metropolitan
45.	United Wire	Cranston	Metropolitan
46.	U.S. Navy - Coaster's Harbor*	Newport	Newport
47.	U.S. Navy - Coddington Cove	Middletown	Newport
48.	U.S. Navy - Melville	Portsmouth	Newport
49.	U.S. Navy - Gould Island*	Newport	Newport
50.	University of Rhode Island	S. Kingston	Southwestern R.I.
51.	V.A. Hospital	Providence	Metropolitan
52.	Washburn Wire	E. Providence	Metropolitan
53.	Womens and Infants Hospital	Providence	Metropolitan
54.	Worcester Textile	N. Providence	Metropolitan
55.	Zambarano Hospital	Barrillville	Northwestern R.I.

* Not operational in 1978, deleted.

which do not qualify as candidate sources due to the relatively small amount of fuel combusted annually; this includes residential space heating, and small commercial and industrial boiler operations. The small annual fuel consumption generally indicates a process with a small heat input capacity. In general, the smaller boilers which comprise the area sources (rated heat input capacity less than approximately 10 million BTU/hr) have less efficient combustion than large boilers because less attention is given to treatment of fuel, regulation of combustion air, and continuous monitoring and maintenance of these units. In addition, flame temperature is usually lower in the smaller units. However, when higher-sulfur fuel oil is burned, flue gas temperature becomes critical due to the possibility of water vapor condensation combining with sulfur dioxide in the furnace. The sulfuric acid droplets that result are extremely corrosive to flue surfaces and other boiler components (e.g., heat exchanger) and are obviously damaging to the environment if released from the stack. The low temperatures which precipitate this problem are also caused by unit cycling which is generally associated with smaller boilers. Therefore it is important to limit the use of higher sulfur fuels to large boilers for which process temperature control is more readily achieved.

The 55 candidate sources were classified into three geographic areas: Metropolitan Providence, Newport area, and Southwestern Rhode Island. Figure 3-1 depicts the source locations and geographic areas; Table 3-1 also lists the geographic area for each SO₂ facility. There is a single source in the northwestern portion of the state that is not part of any geographic area and is analyzed separately from the rest. As Figure 3-1 indicates, the majority of the candidate sources (80%) are located in the metropolitan area; there are only five sources in each of the other two study areas.

The reason for source classification into geographic areas is to examine the possibility that sulfur-in-fuel oil revision is feasible for certain areas of the state and not for others. For example, it may be difficult to convert in the source-intensive metropolitan area, but fuel

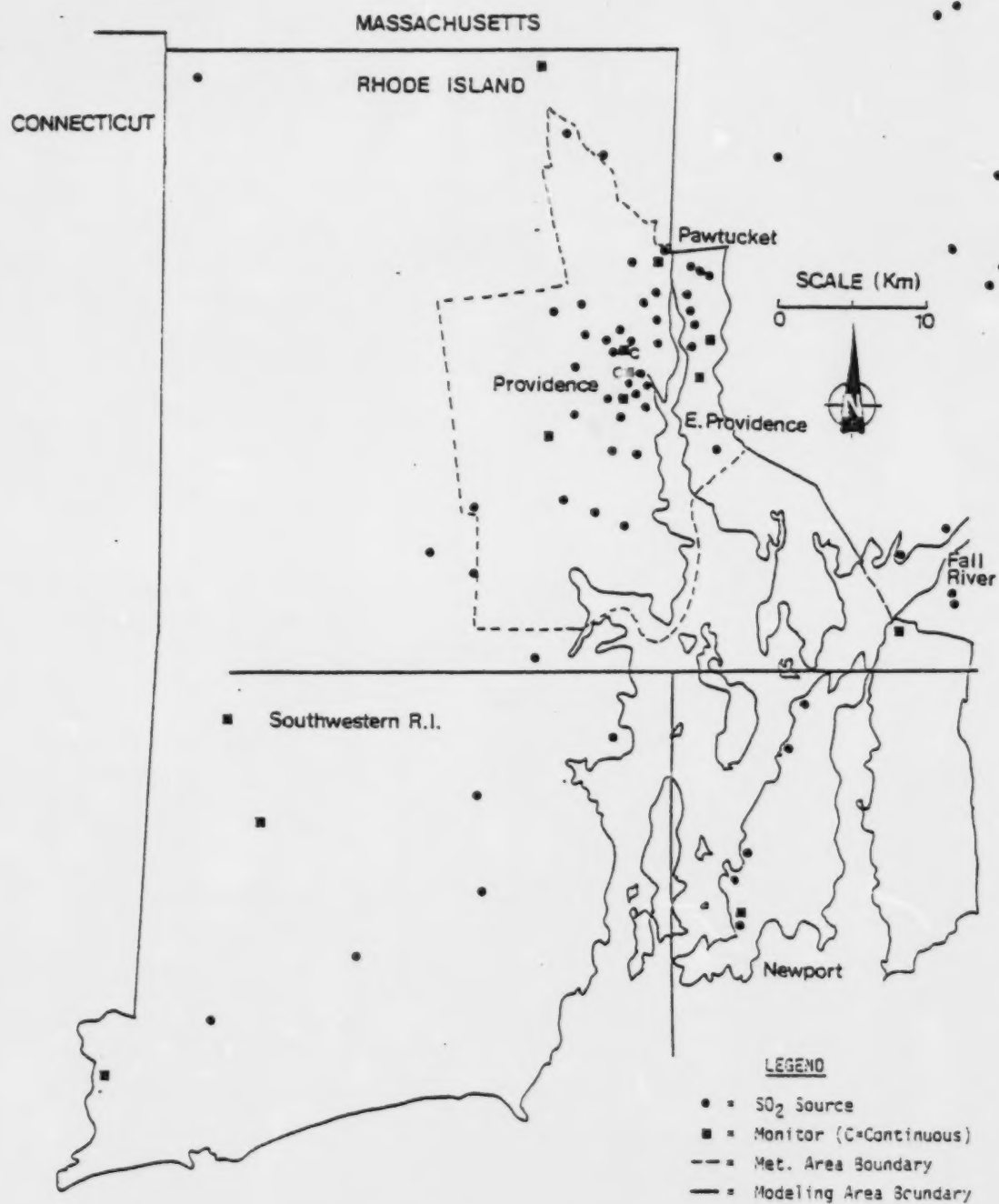


FIGURE 3-1. LOCATION OF CANDIDATE SOURCES

conversion of an "isolated" source may be acceptable. The key classification is metropolitan/non-metropolitan because 80 percent of the candidate sources lie in the metropolitan area. The metropolitan area was defined by the Rhode Island DAR to consist of the following cities and towns: Pawtucket, Central Falls, N. Providence, Johnston, Providence, E. Providence, Cranston, Warwick, W. Warwick and Lincoln. The extent of this area is indicated in Figure 3-1. Note that three sources in the southwestern portion of the metropolitan area lie outside the defined boundary but are considered metropolitan sources due to their proximity (less than 6 km in all cases) and likelihood of SO₂ impacts in the metropolitan area.

The non-metropolitan sources are further subdivided into two groupings of five sources each (plus a remaining "isolated" source in northwestern R.I.): Newport-Jamestown and Southwestern R.I. (referred to as "Newport" and "S.W. R.I."). This subdivision was made primarily on the basis of geographic proximity to optimize the computer modeling analysis of the sources. That is, because each grouping can be considered a "cluster" of sources, it can be modeled separately with its own receptor grid. The assumption is that there are no significant source interactions between the two non-metropolitan areas. In addition, the non-metropolitan areas are assumed to have a minimal impact on the metropolitan area. Those assumptions are tested in this study by the placement of distant receptors for each non-metropolitan area modeling run. Receptor placement is more fully discussed in Section III (D). Note that it is assumed that the metropolitan area will impact the remaining geographic areas; this impact is explicitly accounted for by the addition of Providence impacts to local impacts on an hour-by-hour basis. Long-range receptors are utilized for this purpose and are discussed in Section III (D).

Another source grouping (or geographic area) not as yet described are the Massachusetts sources. These consist of 11 large facilities in the southeastern Massachusetts area with a minimum heat input capacity of 100 million BTU/hr and within at least 30 kilometers of metropolitan Providence. These sources are not considered "candidate" sources but rather background sources for the purpose of determining NAAQS compliance for the Rhode

Island sources converting to higher sulfur fuel. Only the major facilities are modeled to simplify the study requirements; the remaining Massachusetts sources are accounted for by the proper selection of a SO₂ ambient background level. The Massachusetts facilities are described in Section IV (B) of the report.

Another source grouping (within a given geographic area) is made on the basis of size or maximum rated heat input capacity. The three size classifications (with the associated heat input capacity) defined by the R.I. DAR are as follows: (1) small (less than 50 million BTU/hr), (2) medium (50-100 million BTU/hr), and (3) major (greater than 100 million BTU/hr). Given these size classifications, three "fuel conversion scenarios" were defined by the R.I. DAR for each geographic area: (1) major sources converting only, (2) major plus medium sources converting, and (3) all candidate sources converting. To illustrate this definition, in Providence the Scenario 2 impacts are computed by modeling all metropolitan candidate sources with a maximum rated heat input capacity exceeding 50 million BTU/hr.

When the metropolitan area impacts on non-metropolitan areas is assessed, modeling results from each area for the same scenario are summed to produce consistent results. Thus, the output of the study is an assessment of feasibility of conversion to 2.2 percent sulfur fuel for three separate geographic areas and three conversion scenarios. The breakdown of SO₂ point sources by geographic area and size are:

Metropolitan:	major-11, medium-13, small-37;
Newport:	major- 0, medium- 7, small- 3;
SW R.I.:	major- 3, medium- 0, small- 4.

These numbers represent the number of point sources and not facilities; there may be point sources of all three size groupings in a given facility. Note that since there are no major sources in Newport, scenario 1 is not

required there; similarly scenario 2 is not required for the S.W. R.I. area. The "isolated" source in northwestern R.I. is in the "small" category, and because of its isolation, is involved only in scenario 3. The source size classification is further described in Section IV (A).

B. PSD AND NAAQS COMPLIANCE

The impacts of candidate sources switching to 2.2 percent sulfur fuel are judged relative to the federal PSD increments and NAAQS limits for each conversion scenario and geographic area. The state of Rhode Island has currently adopted air quality standards identical to the federal standards. The applicable standards are the 3-hour, 24-hour, and annual NAAQS limits for sulfur dioxide (1300 ug/m³, 365 ug/m³, and 80 ug/m³ respectively)* and the 3-hour, 24-hour, and annual PSD increments for a Class II area (512 ug/m³, 91 ug/m³, and 20 ug/m³ respectively). A comparison is made with NAAQS for each averaging period by adding the maximum (or the second-high) contribution from the converting sources to a suitable background concentration. The comparison with the PSD increment for each averaging period is made with the maximum (or the second-high) incremental impact of converting sources for each scenario. The details of the analysis with respect to the standards for each geographic area are given below.

Dispersion modeling is performed to assess the SO₂ impact of conversion to higher sulfur fuel relative to annual and short term standards (NAAQS and PSD increments). An assessment of these standards is made. Table 3-2 is a summary of the modeling approach for both study areas (metropolitan area, non-metropolitan area) in terms of the key components of the analysis: background determination, baseline case, and NAAQS and PSD demonstration. The methodology specific to each study area is described in the following text. Note that the Newport area and S.W. R.I. area are collectively referred to as "non-metropolitan".

* The 24-hour and annual standards are primary standards (health-related); the 3-hour standard is a secondary standard (welfare).

TABLE 3-2
SUMMARY OF MODELING APPROACH FOR STUDY
AREAS AND AVERAGING PERIODS

Analysis Task	Providence Area	Non-Metropolitan Area
Background Determination	Use maximum continuous monitoring data (average data for annual standards). Possible adjustments to monitored data based on results of baseline case modeling.	Use maximum bubbler data in vicinity of source.
Baseline Case	Model impact of all point sources at average (1978) emission rate, 1% sulfur at continuous monitor sites.	Not required.
NAAQS Demonstration	<u>Short-term</u> Background + impact of converting sources at 2.2% sulfur (maximum capacity) plus non-converting sources at 1.0% sulfur. <u>Annual*</u> Background + impact of converting sources at 2.2% sulfur (average emissions).	<u>Short-term</u> Background + impact of converting sources at 2.2% sulfur (maximum capacity) plus non-converting sources at 1.0% sulfur. <u>Annual*</u> Same as metropolitan area.
PSD Analysis	<u>Short-term</u> Impact of converting sources at 2.2% sulfur - 1.0% impact (maximum capacity). <u>Annual</u> Impact of converting sources at 2.2% sulfur - 1.0% impact (average emissions).	<u>Short-term</u> Same as metropolitan area. <u>Annual</u> Same as metropolitan area.

* Non-converting sources modeled at 1.0% sulfur, average rate. Impacts of all sources at maximum capacity will be evaluated first.

Providence Metropolitan Area: For one year of meteorological record, base case concentrations resulting from point sources (assuming use of 1% sulfur oil and actual source emissions) are generated for receptor locations corresponding to the two continuous monitoring sites in Providence, e.g., the Dyer St. and Health Dept. sites. The short term impact (and annual summary) of each scenario is modeled assuming use of 2.2% sulfur oil by switching sources, 1% sulfur oil otherwise, and maximum allowable emissions by all point sources. Massachusetts sources are considered non-switching sources. A suitable receptor network (approximately 100 receptors) is selected, including all air monitoring stations as well as locations indicative of the impact on Massachusetts.

Background air quality is characterized from monitoring data recorded by two continuous monitors operating in Providence during 1978. The existing monitoring network is not presently judged sufficient to characterize maximum pollution levels in the city. Therefore, the maximum-modeled impact of each scenario is added to the monitored levels (maximum for short-term standards and average for annual standard) to assess compliance with annual, 24-hour and 3-hour air quality standards. If necessary (e.g., if NAAQS are exceeded), the assumption that existing monitors represent background conditions shall be assessed by providing a comparison of base case modeled versus monitored concentrations. Adjustments will be made to monitored maxima if there is substantial point source impact at the monitoring site. Section IV (D) is a summary of all background SO₂ data employed and adjustments to the data. Estimation of the PSD increment consumed is discussed below.

Non-Metropolitan Area: Background will be characterized by maximum bubbler data recorded during 1978 (or 1977 if necessary) in the area being modeled. The dispersion models RAM and/or CRSTER shall be used with five (5) years meteorological data and a suitable receptor configuration to be proposed upon review of the source configurations. The highest (and second-high)

modeled results in a year, using 2.2% sulfur for switching sources, 1% sulfur otherwise, and maximum allowable emissions for all sources, shall be added to the maximum bubbler data to assess compliance with the 3-hour and 24-hour standards. Compliance with the annual standard shall similarly be evaluated by adding annual average bubbler data to annual average concentrations at all receptors. Estimation of the PSD increment consumed is discussed below.

For both study areas, the annual-averaged impact is assessed first with maximum emission rates for all converting sources, since this information is already available from the short-term modeling runs. If no violations are shown (NAAQS or PSD), then there is no need to determine the annual-averaged impact of sources at average emission rates as previously described. However, if violations are shown for this conservative estimate, then it may be necessary to model sources at average emission rates with the Climatological Dispersion Model (CDM).

The consumption of PSD increment consumed is measured by the difference between current air quality under the present regulations and air quality which would result from maximum allowable emissions from source switching under each scenario. This requires a simple linear scaling of the modeled incremental impact of maximum source emission rates at 2.2% sulfur content (i.e., 2.2% incremental impact - 1.0% incremental impact, or a net 55 percent of the 2.2% impact). Note as described in Table 3-2 that in assessing impact of sources relative to PSD increments, only the sources switching fuel are modeled; there are no "background" sources. This is done because the available PSD increment is consumed only by the increase in emissions over the baseline.

C. COMPUTER MODELS AND MODELING TECHNIQUES

1. Modeling Factors

The input data requirements for an air quality simulation model can be broadly classified into source factors, site factors, and meteorological factors. Source factors are related to the location and operating characteristics of pollutant emission sources. These factors include source type designation (viz., point or area), pollutant emission rates, stack height, stack gas temperature and exit velocity, and other design parameters. Site factors include the effect of terrain features and the location of sensitive receptor points relative to the emission sources.

It is generally agreed that the meteorological factors directly involved in predicting pollutant concentrations are transport and dilution by the mean wind and dispersal by atmospheric turbulence [3]. These meteorological parameters exhibit important time and space variations, particularly in the lower several thousand feet, where air pollution problems are most strongly related to the vertical thermal structure of the atmosphere in this boundary layer. During conditions of an unstable atmospheric thermal structure, both horizontal and vertical dispersion of pollutants is enhanced, whereas in stable atmospheres, the reverse conditions apply. Consequently, the thermal stability of the ambient air is an important controlling factor in determining the dispersion properties in a given region.

Another important meteorological parameter is the vertical thickness of the atmospheric layer in which turbulent mixing can diffuse the emissions. Deeper mixing depths will permit a pollutant to be dispersed into larger volumes, resulting in lower ground-level concentrations. Under certain meteorological conditions, principally low-level temperature inversions, this thickness can be severely limited--thereby trapping pollutants within a shallow layer near the ground. The mixing depth within a region generally varies both with the season and with the time of day.

Thus, the dispersion properties of the atmosphere at any particular time can be described in terms of the joint occurrence of specific conditions of thermal stability, mixing depth, and wind. These meteorological factors are highly interrelated and are observed to occur in combinations of different conditions with varying frequency.

2. Atmospheric Dispersion Models

The models employed in this study are the EPA-recommended Gaussian plume models: RAM (Urban and Rural versions) and CRSTER (Single Source) model. Both models have been developed by EPA and are available on the current UNAMAP-3 program library. The following discussion will briefly describe the Gaussian model and attempt to point out the differences between the two models employed in this study.

The basic Gaussian model simulates atmospheric transport and dispersion processes by assuming the concentrations of pollutants downwind within a plume generated by point and area source emissions can be represented by a Gaussian distribution in both the crosswind and vertical directions. Emissions sources are assumed to be continuous for the time analyzed. As the plume expands due to turbulent diffusion, it is diluted and transported downwind, principally by the mean wind. The rate of expansion is characterized by a series of empirical dispersion curves which are dependent on the stability of the atmosphere, as determined in studies made by Pasquill [3] and reported by Turner [4].

The assumptions incorporated in the Gaussian plume equation can be summarized as follows:

- Steady-State Conditions - ideal gas, continuous uniform emission rate, homogeneous horizontal wind field, representative hourly mean wind velocity, no directional wind shear in the vertical, infinite plume, no plume history.

- Pollutant Characteristics - the pollutant emitted is a stable gas or aerosol which remains suspended in the air and participates in the turbulent movement of the atmosphere, none of the material is removed as the plume advects and diffuses downwind and there is complete reflection at the ground.
- Gaussian Distribution - the pollutant material within the plume takes on a Gaussian distribution in both the horizontal crosswind and vertical directions, described by empirical dispersion parameters σ_y and σ_z .

Input data requirements for the standard Gaussian plume model are noted below. Any requirements which are specific to one of the two models used is so identified.

- a) Source Factors
 - Source name and location (UTM Coordinates)
 - SO₂ emission rates
 - Stack height and diameter
 - Stack gas temperature and exit velocity
- b) Site Factors
 - Receptor location (RAM only)
 - Study area type (urban, rural)
 - Pollutant half-life (RAM only)
 - Terrain data (CRSTER only)
- c) Meteorological Factors
 - Hourly NWS observations of wind speed, flow vector, randomized flow vector, Pasquill stability class, mixing height and ambient temperature.

The RAM model and CRSTER models are based on the previously described Gaussian plume equation and are quite similar in most respects. The CRSTER model has been documented by Guldberg, et.al. [5], and the RAM model by Turner and Novak [6]. Some of the key differences are discussed

below. The CRSTER model is primarily intended for single sources or facilities in a rural environment. (However, there does exist an "urban mode" for CRSTER which uses urban mixing heights and does not allow the "stable" atmospheric classification.) All source data input for several stacks must be co-located, and a radial field of 180 receptors is automatically generated surrounding the source. The dispersion coefficients used in CRSTER are the Pasquill-Gifford (rural) coefficients as reported by Turner [7]. Also, wind power law exponents used in CRSTER are those typical of rural areas.

The RAM model differs from the CRSTER model in that it is applicable to a set of point and area sources in an urban or rural environment. The urban version (RAM) employs the urban dispersion coefficients recommended by Briggs, based on the McElroy-Pooler tracer experiments.[8] The rural version (RAMR) uses the Pasquill-Gifford dispersion coefficients which are identical to those used by CRSTER. The RAM model is designed for a short meteorological period (e.g. 24 hours) while CRSTER is more suitable for a long period (e.g., 1 year). In this study, however, the RAM model was successfully applied for a year of meteorological data. Another significant difference between model algorithms is the lack of terrain treatment by the RAM model; the CRSTER model incorporates a plume height adjustment for situations where terrain elevation exceeds the stack base elevation. Also, CRSTER does not allow pollutant "decay", due to the assumption of a short travel time; while the RAM model includes a decay term in the Gaussian equation based on the user-input pollutant half-life. The plume rise formula used by RAM is more sophisticated than that used by CRSTER in that calculations are made for both momentum-dominated and hot buoyant plumes. CRSTER plume rise calculations are limited to the latter situation. There are no other significant differences in model algorithms beyond those discussed above; the output options for each model vary widely but are not discussed here.

There are many limitations to the Gaussian plume equation as formulated by RAM and CRSTER when applied in real-world situations; as the physical situation approaches steady-state the use of the Gaussian model becomes more justifiable. Some of the assumptions associated with the steady-state condition are uniform emission rate, homogeneous horizontal wind field, representative hourly mean wind speed and direction, lack of wind directional shear and lack of plume history. ..

3. Model Modifications and Application

The RAM and CRSTER models used in this study are the most recent versions from the EPA UNAMAP-3 program library. The RAM (urban) model was used for the metropolitan Providence area modeling. The RAMR (rural) model was used in the non-metropolitan areas (Newport, Southwest R.I.). The choice of the RAMR model is made (instead of CRSTER) for the non-metropolitan area because of the possibility of significant source interaction; with a common receptor grid these interactions can be estimated. (CRSTER models a single facility at a time). The selection of receptor grids for all RAM modeling is discussed in Section III (D). The CRSTER model was applied for a single source (Zambarano Hospital) in the northwestern portion of the state.

Program modifications were limited to adding an hourly output option to RAM which allowed writing to disk or tape the hour-by-hour concentrations at each receptor. The data set resulting from executing this option can be processed in a number of ways: summed hour-by-hour to a similar data set, or processed to produce concentrations for multiple averaging periods. This option affords a great deal of flexibility when a large number of sources, long meteorological record (1 year), multiple emission "scenarios" exist, and output for several averaging periods is desired (e.g., 3-hour, 24-hour, annual). Since these conditions were present in this study, the hourly output option was extremely useful for .

calculating the required PSD and NAAQS results for various emission scenarios and averaging periods. An example of how the hourly data sets were created and processed for the Providence area is discussed below.

Figure 3-2 is a schematic diagram of the RAM application and post-processing for the PSD and NAAQS computations for conversion scenario 2 (major plus medium sources) in Providence. The left-most column in the figure represents the RAM modeling of four distinct source groups to produce four corresponding hourly data sets. For PSD determination, the hourly data sets for the major sources and medium sources must be summed (hourly concentrations at corresponding receptors are added after multiplication of every hourly concentration by a factor of 0.55), as indicated in Figure 3-2. The factor of 0.55 is required to adjust the hourly concentrations from 2.2% sulfur to a 1.2% sulfur basis (derived from $[2.2\%S - 1.0\%S]$ which is the "incremental" concentration for PSD comparison).

The NAAQS hourly data set for scenario 2 is constructed from four hourly concentration data sets. To review the project methodology, the NAAQS determination is made by modeling converting sources at 2.2% sulfur and non-converting sources (including Massachusetts sources) at 1.0% sulfur. For scenario 2 in Providence, the major and medium sources are therefore modeled at 2.2% sulfur and the small sources and Massachusetts sources are modeled at 1.0% sulfur. Figure 3-2 indicates that the "small" source hourly data set is multiplied by a constant factor of 0.45 to adjust the results from 2.2% sulfur to 1.0% sulfur. The four required data sets are then summed on an hour-by-hour basis to produce the NAAQS results for scenario 2.

The PSD and NAAQS data sets are input to the RAM post-processor program, AQSTAT. This program computes the highest and second-high concentration at each receptor for all averaging periods. Examples of AQSTAT output appear in Appendix B.

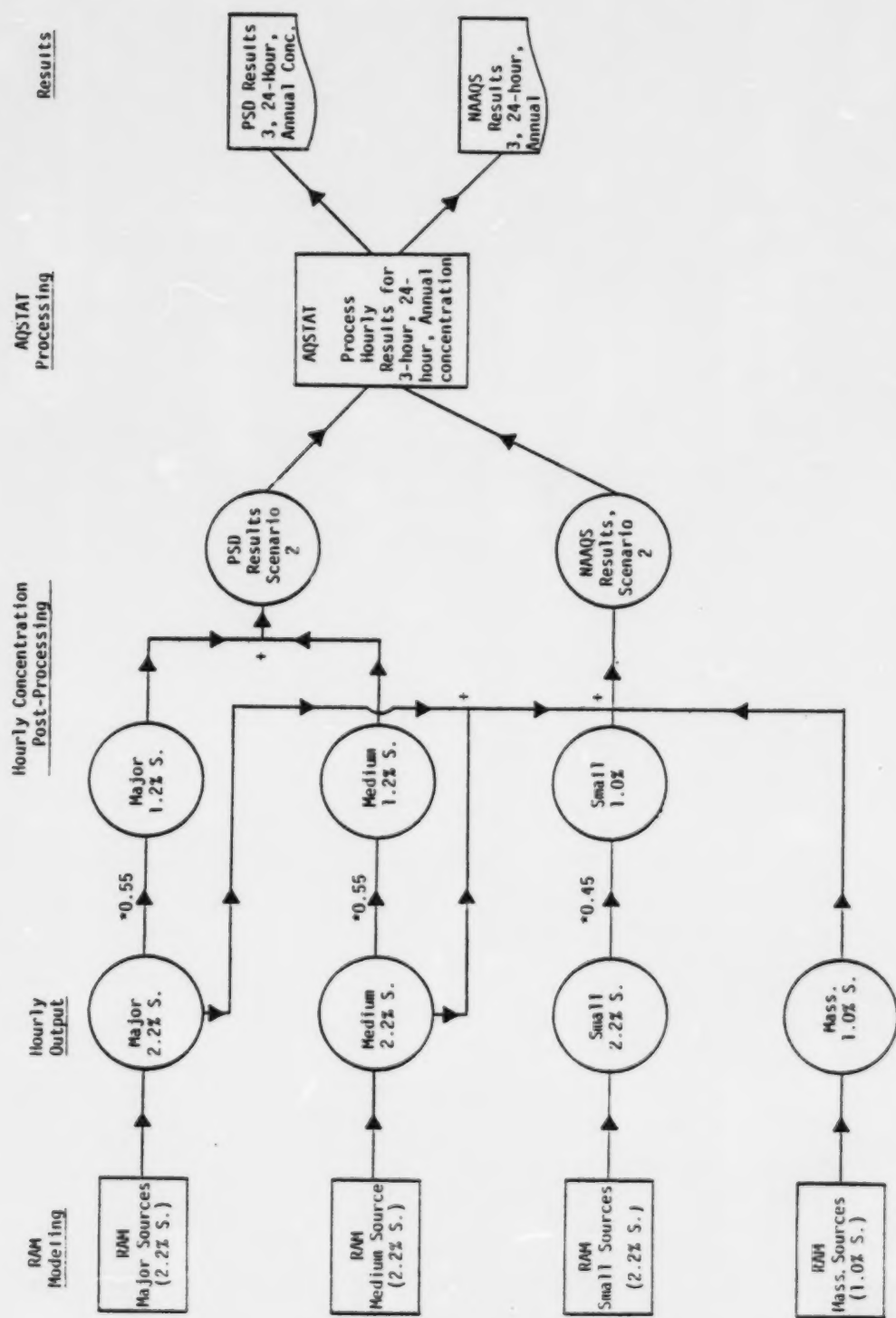


FIGURE 3-2

PROVIDENCE SCENARIO 2 COMPUTER PROCESSING

("*" indicates every concentration is multiplied by a constant factor; "+" indicates data sets are summed hourly at corresponding receptors.)

D. SELECTION OF RECEPTOR SITES

Receptor sites were chosen for each of the study areas where the RAM model was applied. An optimum selection of receptor sites for each study area is critical to location of the maximum SO_2 concentration predictions. It is not possible to simply blanket the entire study area with a dense grid of receptors due to the size of the study area involved (about 3144 km^2 for the state of Rhode Island). Instead, receptors are placed in expected areas of impact from each source and areas of interaction between sources. The methodology employed in locating receptors for all study areas is outlined below.

There are four receptor types defined for the modeling work in this study: critical distance, interaction, grid, and long range receptors. The first three types are illustrated in Figure 3-3. A critical distance receptor is placed downwind of a given source at a distance which is likely to produce the highest concentration from the source. The wind directions assumed for placement of downwind receptors for this study are West, North, and South (0° , 180° , and 270°) which are the predominant wind directions according to 1974 hourly surface observations at Green Airport (Providence).

As shown in Figure 3-3, there are three critical distance receptors for each source. However, in a dense source area (such as the metropolitan area) there are many overlapping receptors which allows elimination of redundant receptors. The "critical distance" for a given source is calculated from procedures for estimating maximum short-term concentrations given in EPA stationary source screening guidelines [9]. Using the methodology given in Chapter 4 of the document, a height of emission for each source is calculated under a variety of stability and wind speed conditions. The height of emission is used to calculate a maximum concentration (χ_{max}) and distance to maximum concentration. Table 3-3 is a compilation of the results of this analysis for every source in the study, and includes source height (actual), maximum potential concentration, and the stability

TABLE 3-3
SUMMARY OF CRITICAL DISTANCES

Source Name and Number+	H(m)	Stability	Distance (km)	Concentration* (ug/m ³)
1. American Hoescht Corp.	9.8	4	0.78	176
2. American Insulated Wire	38.1	2	2.41	55
3. Arkwright, Inc.	38.1	2	2.53	49
4. ATC Petroleum	38.1	2	2.29	174
5. Bird and Son, Inc.	29.9	2	2.92	78
6. Bostich	12.2	4	1.05	226
7. Bradford Dye Assoc.	56.7	2	3.64	81
8. Brown University	18.3	4	1.79	101
9. Ciba-Geigy Corp.	45.7	2	3.60	52
10. Colfax, Inc.	16.8	4	1.61	96
11. Collyer Insulated Wire	12.8	4	1.13	112
12. Corning Glass Works	41.5	2	2.90	54
13. Cranston Print Works	15.4	4	1.44	242
14. Erco Corporation	30.5	2	2.99	45
15. National Bottle Co.	17.1	4	1.64	49
16. Gorham, Div. of Textron	45.7	2	3.00	76
17. ITT Royal Electric	22.9	3	1.97	70
18. Kaiser Aluminum	11.0	4	0.91	136
19. Kenyon Piece Dyeworks	38.1	2	2.29	53
20. Ladd Center	45.7	2	3.91	41
21. Leesona	7.0	4	1.46	118
22. Leviton Manufacturing	13.7	4	1.24	115
23. Malina Company	30.5	2	2.36	56
24. Memorial Hospital	22.9	3	1.92	46
25. Miriam Hospital	35.1	2	3.60	43
27. Narragansett Brewery	36.6	2	3.52	27
28. Narragansett Elec - S. St.	99.1	2	6.84	60
29. Narragansett Elec - Manchester St.	61.3	2	3.51	134
30. Newport Hospital	58.1	2	2.67	45
31. Owens Corning Fiberglas	18.3	4	1.59	78
32. Providence College	36.6	2	2.21	43
33. Providence Gravure	15.5	4	1.46	133
34. Providence Housing Auth.	32.0	2	2.29	72
35. RI Central Power Plant	42.7	2	2.91	232
36. Rhode Island College	14.3	4	1.31	70
37. Rhode Island Hospital	45.7	2	3.64	53
38. RI Port Authority	19.5	3	2.71	104
39. Rochambeau Worsted	27.4	2	2.19	53

TABLE 3-3 (CONT.)
SUMMARY OF CRITICAL DISTANCES

Source Name and Number+	H(m)	Stability	Distance (km)	Concentration* (ug/m ³)
40. St. Joseph's Hospital-Fatima	27.4	3	2.19	50
41. St. Joseph's Hospital-Providence	42.7	2	3.62	31
42. Slater Dye Works	24.4	3	2.35	57
43. Teknor Apex	18.0	4	1.75	72
44. Texaco	25.9	3	2.07	67
45. United Wire	12.2	4	1.05	122
46. USN - Coasters Harbor	25.1	2	2.48	62
47. USN - Coddington Cove	23.8	3	1.93	74
48. USN - Melville	24.4	3	2.15	93
50. Univ. of Rhode Island	53.3	2	3.74	62
51. VA Hospital	12.8	4	1.13	114
52. Washburn Wire	19.8	4	1.98	114
53. Women's & Infant's Hospital	30.5	2	3.07	15
54. Worcester Textile	21.3	3	2.03	74

* The maximum estimated concentration resulting from a single source within the facility. Maximum prediction occurring greater than 10 km are not included.

+ Mobil Oil (26), USN - Gould Island (49), and Zambarano Hospital (55) not included due to non-candidacy, source shutdown, and source isolation, respectively.

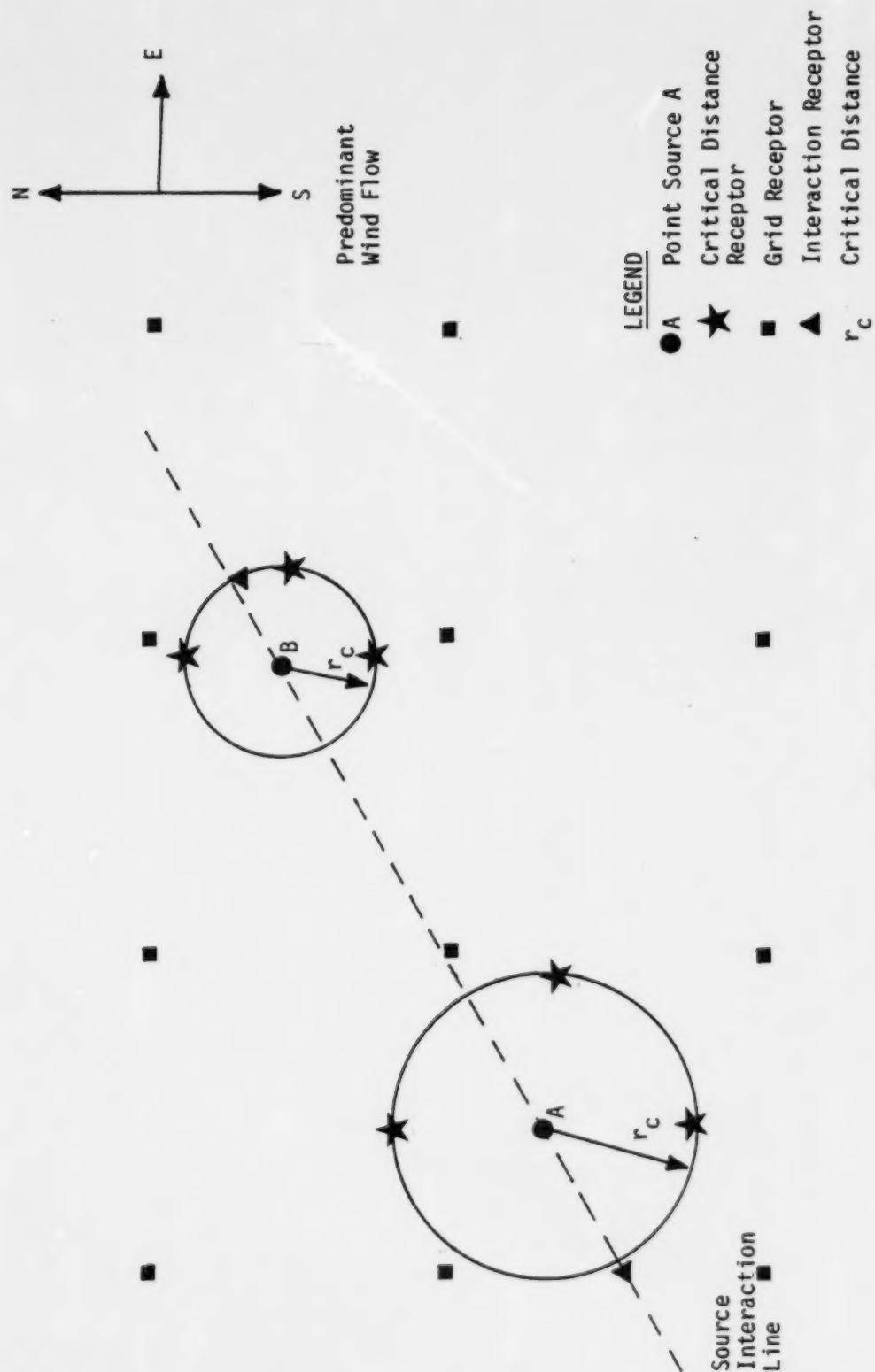


FIGURE 3-3
SCHEMATIC DIAGRAM OF RECEPTOR TYPES

and critical distance associated with the maximum. It should be noted that concentration estimates in the table are made solely to locate the critical downwind distance, and are not otherwise relevant to the study.

The source interaction receptors are placed in probable locations of combined impact between two sources. These receptors lie on a straight line connecting the source pair (see Figure 3-3); the assumption is that the maximum interaction occurs when the wind blows directly from one source to the next, causing a "merging" of the plumes. The receptor is placed at the critical distance already determined downwind of the second source.

It is clear that given the large study area, much uncovered area will remain after the "critical distance" and "interaction" receptors are placed. Therefore, "grid" receptors are utilized to provide a coarse grid over the study area and cover special areas of interest (i.e., neighboring states).

The long-range receptors are utilized to record impacts at long ranges (up to 30 km). These are used for the Providence metropolitan area modeling runs to examine the impacts of the urban area upon the other modeling areas (S.W. Rhode Island, Newport-Jamestown, and N.W. Rhode Island*) and in the non-metropolitan areas to measure the magnitude of interaction between those areas. The implicit assumption is that the urban area, with approximately 83% of the total SO₂ emissions of the sources considered in this study, will impact upon the other areas significantly, but that the reverse is not true. The relatively large distances between the metropolitan and non-metropolitan areas (about 30 km) lend further validity to this assumption.

* A sole source exists in this area to be modeled with CRSTER.

The total number of receptors by type located in each study area is given in Table 3-4. Figure 3-4 illustrates the receptor placement in the metropolitan area. The metropolitan area is dominated by critical distance receptors which were generated by the large number of sources in the area. There are no interaction receptors located in this area due to the relatively dense coverage already provided, and the difficulty of determining where source interactions occur. Grid receptors are sited in this area to examine the source impact in Massachusetts and cover "open" spots.

The Newport and Southwestern receptor grids are comprised chiefly of "grid" receptors due to the small number of sources and large respective study areas. Figure 3-5 is the key to receptor location in these areas. The "grid" receptors are spaced at approximately 3 kilometers in the Newport area and 5 kilometers in the Southwestern Rhode Island area. It should be noted that there are less critical distance receptors than expected for these areas due to overlap with interaction and grid receptors.

In addition, Table 3-4 indicates the number of monitoring locations serving as receptor sites in each study area. Both continuous and intermittent SO₂ sites are included.

TABLE 3-4
RECEPTOR ALLOCATION BY STUDY AREA

Receptor Type	Metropolitan	Newport	S. Western
CD - Critical Distance	81	12	10
IN - Interaction	-	7	9
LR - Long Range	6	2	2
GR - Grid	19	36	39
MO - Monitor Sites	8	2	3
Total	114	59	63

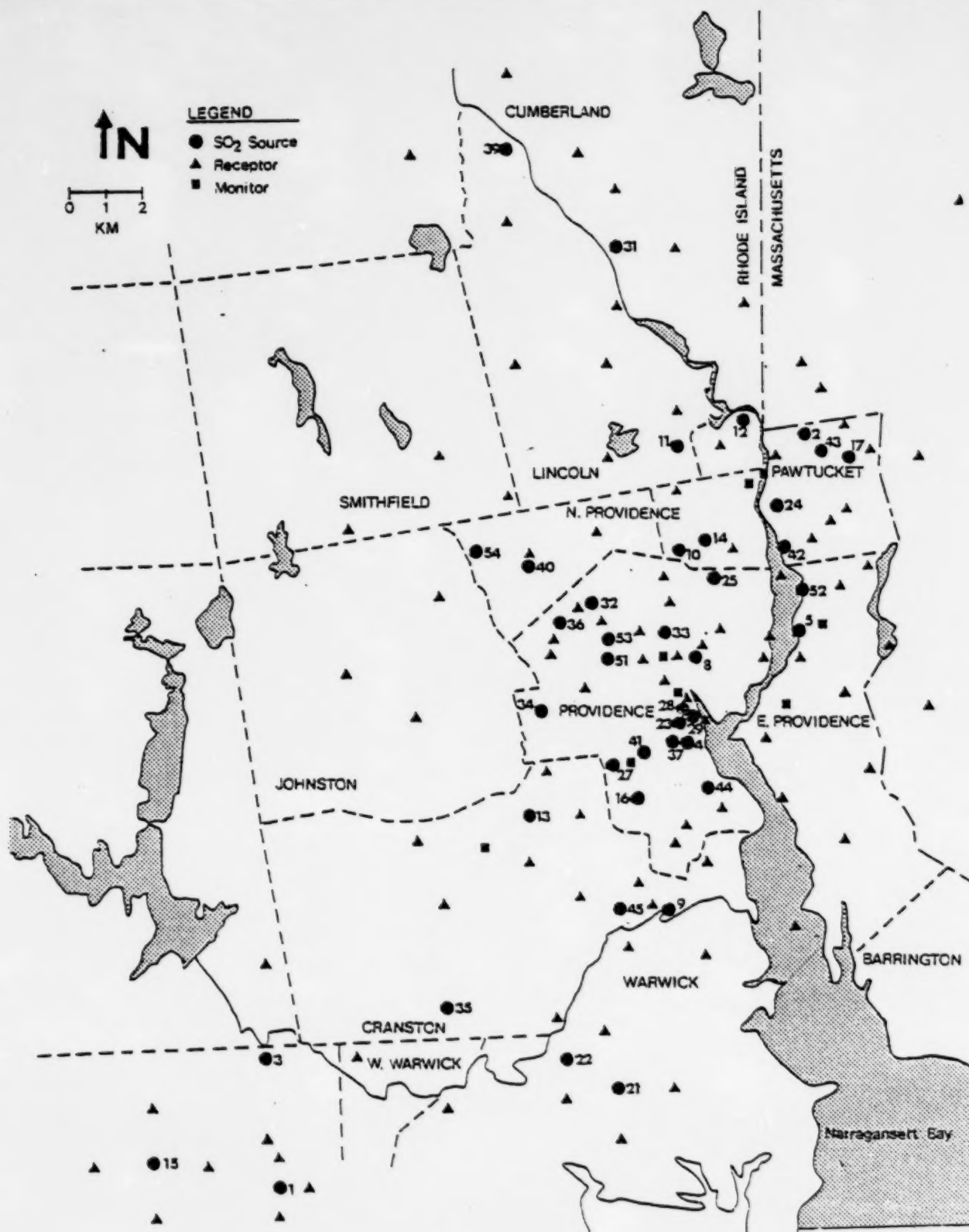


FIGURE 3-4. METROPOLITAN AREA SOURCE LOCATION AND RECEPTOR GRID

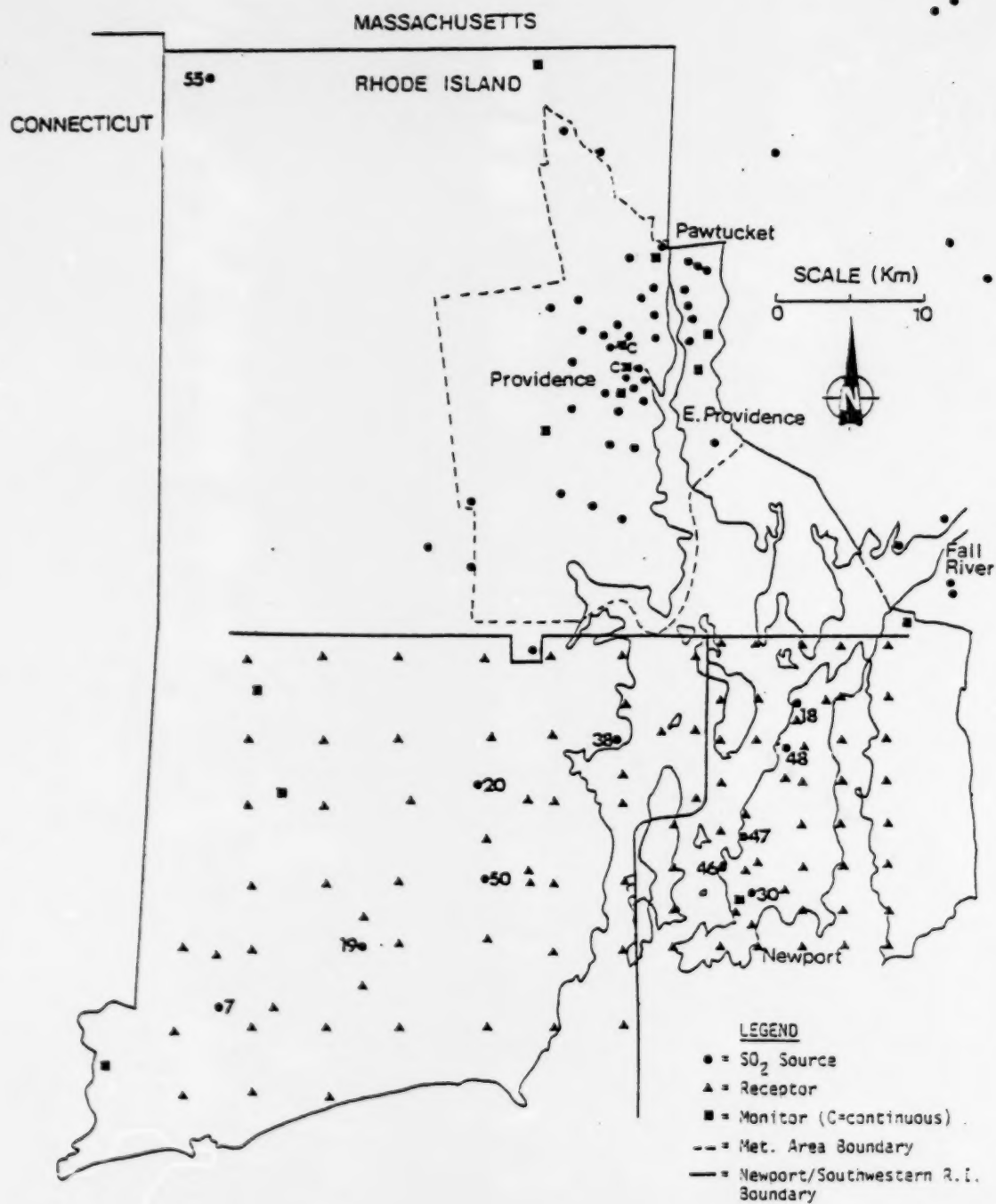


FIGURE 3-5. NON-METROPOLITAN AREA RECEPTOR GRID

IV. SO₂ SOURCE DATA AND AMBIENT DATA

A. CANDIDATE SOURCE DATA

Source emissions data for the 55 facilities defined as candidate sources for this study were provided by the R.I. DAR. These data included source name and location, stack height, stack temperature, stack exit velocity, stack diameter, maximum firing capacity and heat input capacity, hours of operation, annual (1978) fuel use, and SO₂ emission rate. Velocity rate and SO₂ emission rates were supplied for the design load and average (1978) load cases. The original data sheet supplied by the DAR is reproduced in Appendix A. The source data was assembled by the DAR from current emission inventory files, source visits, and stack test reports. UTM coordinates are verified with USGS topographic maps. Emission rates are calculated from fuel use data using the EPA emission factors given in AP-42 [10]. Velocity rates were computed by the DAR with formulas assuming 20 percent excess air. A letter describing the formulas and a listing of the calculated velocities are included in Appendix A. The Rhode Island candidate source data is summarized in Table 4-1. All emission rates are based on 1.0 percent fuel sulfur content. Source size category (major, medium, small) is indicated in the table.

The R.I. candidate source data in Table 4-1 was input to the RAM model for baseline case modeling ("actual" emissions and velocities used). For future case (scenario) modeling, design emission and velocity rates were used; the emission rates in Table 4-1 must be multiplied by a factor of 2.2. Sources noted as "standby" in the table are modeled at design rate, 2.2 percent sulfur for the scenario modeling.

The source emission totals for each modeling group are listed by size category in Table 4-2. As indicated in Table 4-2, the metropolitan area accounts for the majority of the statewide SO₂ emissions with 83

TABLE 4-1
RHODE ISLAND CANDIDATE SOURCE SO₂ EMISSION INVENTORY (1.0% S.)^a

Facility	UTM E	Coord. N	SO ₂ Rate (g/s)		Velocity (m/s)		H (m)	Stack Data T (°K)	D (m)	Max. Heat Input (MMBTU/H)	Source Type
			Max.	Actual	Max.	Actual					
Metropolitan											
1. American Hoechst Corp.	288.6	4618.8	17.01	2.79	23.	2.46	9.75	563	1.16	125.56	Major
	288.6	4618.8	9.69	1.86	13.7	3.34	38.1	563	1.22	71.54	Medium
2. American Insulated Wire	303.5	4639.6	6.53	3.04	1.5	0.62	38.1	477	2.74	48.18	Small
3. Arkwright, Inc.	288.3	4622.6	2.02	1.39	1.0	0.58	38.1	443	1.83	14.89	Small
4. AIC Petroleum	300.2	4631.3	10.4	1.12	1.3	0.5	38.1	477	1.83	17.52	Small
5. Bird & Son, Inc.	303.3	4634.2	12.46	12.15	14.6	12.09	29.87	468	1.22	91.98	Medium
	303.3	4634.3	7.32	9.13	8.2	7.79	26.21	513	1.22	54.02	Medium
6. Bostich, Div. of Textron	292.0	4611.8	17.8	1.26	44.8	3.12	12.19	451	0.76	131.4	Major
8. Brown University	300.5	4633.7	13.20	1.55	16.8	1.66	18.29	507	1.22	97.38	Medium
	300.5	4633.7	13.20	1.55	16.8	1.66	18.29	507	1.22	97.38	Medium
9. Ciba-Geigy Corp.	299.5	4626.4	5.93	0.78	11.2	1.24	45.72	577	1.07	43.8	Small
	299.5	4626.4	21.76	2.94	14.6	1.9	45.72	583	1.68	160.6	Major
10. Colfax, Inc.	299.9	4636.7	5.93	0.73	18.2	1.84	19.2	477	0.77	43.8	Small
	299.9	4636.7	5.93	0.73	12.6	1.19	16.76	477	0.96	43.8	Small
11. Collyer Insulated Wire	300.1	4639.7	5.44	1.36	4.5	0.98	12.8	521	1.52	40.15	Small
12. Corning Glass Works	301.8	4640.8	6.1	2.29	9.0	2.68	36.58	591	1.22	45.04	Small
	301.8	4640.8	8.47	3.15	2.3	0.68	41.5	491	2.59	62.49	Medium
	301.8	4640.8	2.00	0.0*	3.0	0.0	45.72	719	1.34	14.75	Small

* Standby operation in 1978.

+ All source data supplied by Rhode Island Division of Air Resources.

TABLE 4-1 (CONT.)
RHODE ISLAND CANDIDATE SOURCE SO₂ EMISSION INVENTORY (1.0% S.)

Facility	UTM E	Coor. N	SO ₂ Max.	Rate (g/s) Actual	Velocity (m/s) Max.	Actual	H (m)	Stack Data T (°K)	D (m)	Max. Heat Input (MMBTU/HR)	Source Type
Metropolitan											
13. Cranston Print Works	295.7	4629.3	7.52	1.32	8.7	2.13	15.40	423	0.91	60	Medium
	295.7	4639.3	6.59	1.32	12.5	3.05	15.40	423	0.76	50	Medium
14. Erco Corp.	295.7	4629.3	1.98	0.0*	1.5	0.0	45.72	423	2.23	15	Small
15. National Bottle Co.	300.6	4637.1	2.47	1.02	3.1	1.1	30.48	507	1.22	18.25	Small
	285.1	4619.4	5.93	1.93	17.9	2.83	10.67	1204	1.22	43.8	Small
16. Gorham, Div. of Textron	285.1	4619.4	5.93	1.93	3.8	3.32	17.07	783	2.13	43.8	Small
17. IRI Royal Electric	298.2	4629.6	12.63	1.30	10.4	0.92	45.72	423	1.38	92.55	Medium
21. Leesona Corp.	304.8	4639.4	5.86	2.07	7.4	2.2	22.86	501	1.22	43.22	Small
	298.2	4621.5	1.62	0.20	5.9	0.63	7.01	563	0.76	11.97	Small
	298.2	4621.5	3.98	0.53	14.7	1.65	7.01	563	0.76	29.35	Small
	298.2	4621.5	1.33	0.0*	32.8	0.0	7.01	563	0.76	9.78	Small
22. Leviton Manufacturing	296.7	4622.4	4.12	2.68	4.9	2.73	13.72	479	1.22	30.37	Small
23. Malina Company	299.8	4631.7	6.53	2.27	8.3	2.45	30.48	507	1.22	48.18	Small
24. Memorial Hospital	302.8	4637.9	2.18	1.93	3.0	2.24	22.86	549	1.22	16.06	Small
25. Miriam Hospital	300.9	4635.8	3.57	1.66	4.5	1.78	35.05	507	1.22	26.28	Small
27. Narragansett Brewery	297.1	4630.4	9.90	4.24	7.4	0.57	57.91	563	3.66	75	Medium
	297.1	4630.4	10.55	4.24	49.9	3.8	36.58	423	1.22	80	Medium
28. Narragansett Electric, South Street	300.2	4632.2	79.13	77.13	15.3	7.64	99.06	417	3.66	1116.9	Major
29. Narragansett Electric, Manchester Street	300.3	4632.0	140.57	64.51	4.9	2.17	61.26	437	6.4	1036.6	Major
31. Owens Corning Fiberglas	298.4	4645.3	1.81	0.47	26.0	5.3	18.29	440	0.35	540.2	Major
32. Providence College	297.6	4635.3	3.96	1.33	16.8	4.78	15.54	423	0.61	13.14	Small
										29.2	Small

* Standby operation in 1978.

TABLE 4-1 (CONT.)
RHODE ISLAND CANDIDATE SOURCE SO₂ EMISSION INVENTORY (1.0% S.)

Facility	UTM E	Coor. N	SO ₂ Max.	Rate (g/s) Actual	Velocity (m/s) Max.	Actual	H (m)	Stack Data T (°K)	D (m)	Max. Heat Input (MMBTU/HR)	Source Type
Metropolitan											
33. Providence Gravure	299.6	4634.5	3.96	1.33	16.8	4.78	15.54	423	0.61	29.2	Small
34. Providence Housing Authority	295.2	4632.4	7.92	1.06	4.7	0.54	32.0	451	1.68	58.4	Medium
35. R.I. Central Power Plant	293.4	4623.9	36.57	4.65	3.7	1.5	45.72	465	2.13	277	Major
	293.4	4623.9	36.83	4.65	2.2	0.9	42.67	465	2.74	279	Major
36. R.I. College	295.8	4635.2	5.27	0.76	15.9	0.69	10.97	535	1.38	40	Small
	295.8	4635.2	8.43	0.76	8.4	0.37	14.33	535	1.90	64	Medium
37. R.I. Hospital	299.7	4631.4	13.61	6.67	10.2	4.9	45.72	538	1.52	100.74	Major
39. Rochambeau Worsted	295.2	4648.1	2.37	1.11	1.8	0.72	27.43	479	1.52	17.52	Small
40. St. Joseph's Hospital-Fatima	295.8	4636.4	2.08	1.05	2.5	1.06	27.43	479	1.22	15.33	Small
41. St. Joseph's Hospital-Prov.	298.8	4630.9	2.61	1.23	1.6	0.66	42.67	563	1.83	19.27	Small
42. Slater Dye Works	302.8	4636.7	3.96	2.73	3.3	1.94	24.38	518	1.52	29.2	Small
43. Teknor Apex	304.0	4639.5	5.29	1.08	1.8	0.29	17.98	549	2.44	34.42	Small
44. Texaco	300.8	4629.9	5.53	2.43	3.02	2.18	25.91	477	1.83	41.88	Small
45. United Wire	298.3	4626.6	1.10	0.47	4.0	1.39	12.19	457	0.69	8.18	Small
	298.3	4626.6	2.76	1.17	13.3	4.6	12.19	457	0.60	20.44	Small
51. V.A. Hospital	298.3	4626.6	0.99	0.0*	3.0	0.0	15.24	465	0.76	7.3	Small
52. Washburn Wire	297.9	4633.7	5.54	1.13	21.3	3.59	12.8	507	0.71	40.88	Small
53. Womens and Infants Hospital	303.4	4635.7	13.86	12.97	9.3	8.49	19.81	479	1.52	102.2	Major
54. Worcester Textile	297.8	4634.2	4.36	1.08	19.75	0.71	30.48	479	1.52	33	Small
	293.3	4637.5	3.96	1.85	8.4	3.39	21.34	479	0.91	29.2	Small

* Standby operation in 1978.

TABLE 4-1 (CONT.)
RHODE ISLAND CANDIDATE SOURCE SO₂ EMISSION INVENTORY (1.0% S.)^a

Facility	UTM E	Coord. N	SO ₂ Max.	Rate (g/s) Actual	Velocity (m/s) Max. Actual	H (m)	Stack Data T (°K)	D (m)	Max. Heat Input (MMBTU/H)	Source Type
<u>Newport</u>										
18. Kaiser Aluminum	311.5	4609.7	7.28	1.37	9.4	1.5	10.97	1.22	53.73	Medium
30. Newport Hospital	307.5	4596.3	6.24	1.45	1.45	14.9	38.1	0.91	46.00	Small
46. U.S. Navy - Coasters Harbor	305.5	4597.8	12.86	3.82	9.3	2.17	25.15	1.71	94.9	Medium
	305.5	4597.8	7.42	2.17	10.6	2.45	22.65	1.22	54.75	Medium
	305.5	4597.8	9.87	2.94	5.8	1.36	29.57	1.93	73.0	Medium
	305.5	4597.8	8.41	2.49	7.8	1.92	22.4	1.52	62.05	Medium
47. U.S. Navy - Coddington Cove	307.2	4599.1	10.89	2.56	9.0	1.81	24.08	1.52	80.3	Medium
	307.2	4599.1	10.89	2.56	9.0	1.81	23.77	1.52	80.3	Medium
48. U.S. Navy - Melville	309.3	4606.2	5.53	0.24	3.8	0.14	24.38	1.52	40.88	Small
	309.3	4606.2	5.53	0.24	3.8	0.14	24.38	1.52	40.88	Small
<u>Southwest R.I.</u>										
7. Bradford Dye Association	270.0	4587.3	20.79	8.01	2.5	0.93	56.69	3.40	153.45	Major
19. Kenyon Piece Dyeworks	280.5	4591.4	5.73	2.54	4.3	1.61	38.1	1.52	42.34	Small
	280.5	4591.4	2.87	1.27	2.9	1.08	28.04	1.37	21.17	Small
20. Ladd Center	287.8	4603.4	4.06	2.85	2.2	1.13	45.72	1.83	30.00	Small
38. Rhode Island Port Authority	299.2	4606.7	15.88	9.41	7.6	4.37	19.51	1.83	116.8	Major
50. University of Rhode Island	288.9	4595.7	16.81	5.32	4.4	3.53	53.34	2.44	124.1	Major
<u>Northwest R.I.</u>										
55. Zabarano Hospital	271.2	4652.9	3.96	2.02	1.6	0.67	18.9	2.13	29.2	Small

TABLE 4-2
CANDIDATE SOURCE SO₂ EMISSION RATE TOTALS

Study Area	Total SO ₂ Emissions (g/s), Size Category			Totals (%)
	Major	Medium	Small	
Metropolitan	991	311	334	1636 (83%)
Newport	-	149	38	187 (10%)
SW Rhode Island	118	-	28	146 (7%)
Totals (%)	1109 (56%)	460 (23%)	400 (21%)	1969

percent of the total. Also, the "major" source category (>100 million BTU/hour heat input) accounts for 56 percent of the total statewide SO₂ emissions.

B. MASSACHUSETTS MAJOR SOURCE DATA

Source emissions data for 11 major S.E. Massachusetts facilities were provided by the Massachusetts Department of Environmental Quality Engineering (DEQE), Southeast Region. The original data sheet is reproduced in Appendix A. A major source was defined as a source with a combined source heat input capacity exceeding 100 million BTU/hour. Emissions data for all such sources within 30 kilometers of Providence was supplied by the DEQE. Emission rates were calculated from 1977 fuel use data with the EPA emission factors in AP-42 [10]. Stack exit velocities supplied by the DEQE were maximum rates associated with design load; average velocities were scaled from this value by the ratio of design emissions/actual emissions. Table 4-3 is a summary of the Massachusetts source emission data. Heat input calculations were made assuming a heat content of 150,000 BTU/gal for residual oil and 145,000 BTU/gal for distillate oil.

The Massachusetts source data in Table 4-3 was input to the RAM model for 1) Providence baseline case modeling (actual emissions, velocities), and 2) future case (scenario) NAAQS modeling (maximum SO₂ emissions, velocities). Point sources with emission rates under 0.5 g/s were eliminated for modeling purposes. Some inter-facility point source combinations were made for sources with equivalent stack data (height, temperature, velocity).

C. METEOROLOGICAL DATA

Surface meteorological data for the study was obtained for the years 1970-4 from Green Airport (station no. 14765) in Hills Grove, R.I. These years are the most recent years for which hourly meteorological data

TABLE 4-3
S.E. MASSACHUSETTS SO₂ SOURCE EMISSION INVENTORY *

Facility	UTM E	Coord. N	SO ₂ Rate (g/s)		Velocity (m/s)		H (m)	Stack Data T (°K)	D (m)	Max. Heat Input (MMBTU/PH)
			Max.	Actual	Max.	Actual				
1. Kaiser Aluminum	321.5	4616.5	3.21	0.37	9.88	1.14	12.19	464	0.70	24.15
	321.5	4616.5	3.21	0.37	9.60	1.11	12.19	464	0.70	24.15
	321.5	4616.5	3.21	0.37	10.24	1.18	12.19	464	0.70	24.15
	321.5	4616.5	5.34	0.05*	10.97	0.10	12.19	464	0.70	40.20
	321.3	4617.6	12.36	3.27	6.10	1.61	50.90	477	3.05	93.00
	319.1	4658.2	8.41	0.93	0.61	0.07	40.23	505	2.59	70.03
	310.9	4645.6	6.36	0.17*	3.05	0.08	24.38	505	1.52	47.85
2.	310.9	4645.6	20.85	6.18	5.36	1.59	22.86	486	1.07	156.90
	323.9	4635.5	9.71	1.31	9.54	1.29	22.86	519	1.07	73.05
	323.9	4635.5	4.58	0.0	6.77	0.0	23.77	519	1.07	34.50
3.	317.1	4656.5	14.35	11.00	17.68	13.55	22.25	533	1.52	1037.90
	325.2	4636.8	148.66	5.22	18.59	0.65	56.39	439	2.44	290.0
	325.2	4636.8	116.73	24.86	11.58	2.47	56.39	408	2.47	399.30
4.	325.2	4636.8	14.30	4.27	5.49	1.64	19.81	450	0.91	48.90
	320.3	4638.4	41.62	1.48	5.67	0.20	76.20	452	2.13	313.20
	320.3	4638.4	23.92	7.10	17.37	5.16	35.36	450	1.37	180.00
5.	320.3	4638.4	37.85	0.76	5.58	0.11	76.20	394	3.05	284.85
	321.5	4622.6	95.63	1.84	8.05	0.15	85.95	455	5.18	719.70
	321.5	4622.6	212.92	2.95	13.14	0.18	85.95	452	5.18	1602.30
6.	321.5	4622.6	307.12	15.56	12.10	0.61	85.95	427	3.96	1050.60
	321.5	4622.6	339.42	227.35	15.51	10.39	101.19	422	3.96	1167.80
	321.5	4622.6	10.75	0.06*	36.58	0.20	13.72	719	3.96	290.0
7.	321.5	4622.6	10.75	0.06*	36.58	0.20	13.72	719	3.96	290.0
	321.5	4622.6	10.75	0.06*	36.58	0.20	13.72	719	3.96	290.0
8.	321.5	4622.6	10.75	0.06*	36.58	0.20	13.72	719	3.96	290.0
	321.5	4622.6	10.75	0.06*	36.58	0.20	13.72	719	3.96	290.0
9.	321.5	4622.6	10.75	0.06*	36.58	0.20	13.72	719	3.96	290.0
	321.5	4622.6	10.75	0.06*	36.58	0.20	13.72	719	3.96	290.0

* All source data supplied by Mass. Dept. of Environmental Quality Engineering, Southeast Region. Facility names not available.

* Sources with actual emission rate <0.5 g/s omitted from baseline modeling.

TABLE 4-3 (CONT)
S.E. MASSACHUSETTS SO₂ SOURCE EMISSION INVENTORY +

Facility	UTM E	Coord. N	SO ₂ Rate (g/s)		Velocity (m/s)		H (m)	Stack Data T (°K)	D (m)	Max. Heat Input (MMBTU/H)
			Max.	Actual	Max.	Actual				
10. Brayton Point	317.4	4619.4	640.94	482.26	21.64	16.28	106.68	400	4.42	2212.50
	317.4	4619.4	641.30	564.92	21.64	19.06	106.68	400	4.42	2212.50
	317.4	4619.4	1520.92	936.75	27.13	16.70	106.68	386	5.94	5250.0
	317.4	4619.4	1435.27	490.18	31.70	10.83	152.40	447	5.64	4950.0
11.	325.3	4643.2	14.15	2.26	2.56	0.41	60.96	408	2.74	107.1

recorded at Green Airport is readily available. Green Airport is the most representative surface station for the state of Rhode Island and in particular the Providence area. The airport is located about 7 miles south of Providence and 2 miles inland (west) of Narragansett Bay. Surface topography in the vicinity of the airport is relatively flat with ground elevations less than 100 feet above mean sea level. According to the NOAA Local Climatological Data Summary, the prevailing wind direction is from the southwest. Figure 4-1 is a wind rose for the year 1974 summarizing the wind direction frequencies. The three predominant wind directions for 1974 are from the north, west, and south.

Mixing height data for the years 1970-4 were obtained from the twice-daily upper air observations from JFK Airport, New York, NY (station no. 94789). Hourly mixing heights are estimated by the RAM preprocessor (RAMMET) using an objective interpolation scheme.

D. BACKGROUND AIR QUALITY DATA

SO₂ ambient concentration data is collected by the Rhode Island DAR in a network of continuous and intermittent monitoring stations located throughout the state. Figure 4-2 is a key to the location of the monitors which provided background data for the study (receptor numbers correspond to those listed in Table 4-4.) There are seven sites in the metropolitan Providence area, two of which are operated continuously, and six non-metropolitan sites, one of which was operated continuously in 1978.

The SO₂ ambient data required for the study is listed in Table 4-4. The data was obtained from the EPA National Aerometric Data Bank via the EPA SAROAD* system. Included in the table are monitor name, site number, collection method, site UTM coordinates, and SO₂ concentration data for 3-hour, 24-hour, and annual averaging periods. The short-term

* Storage and Retrieval of Aerometric Data

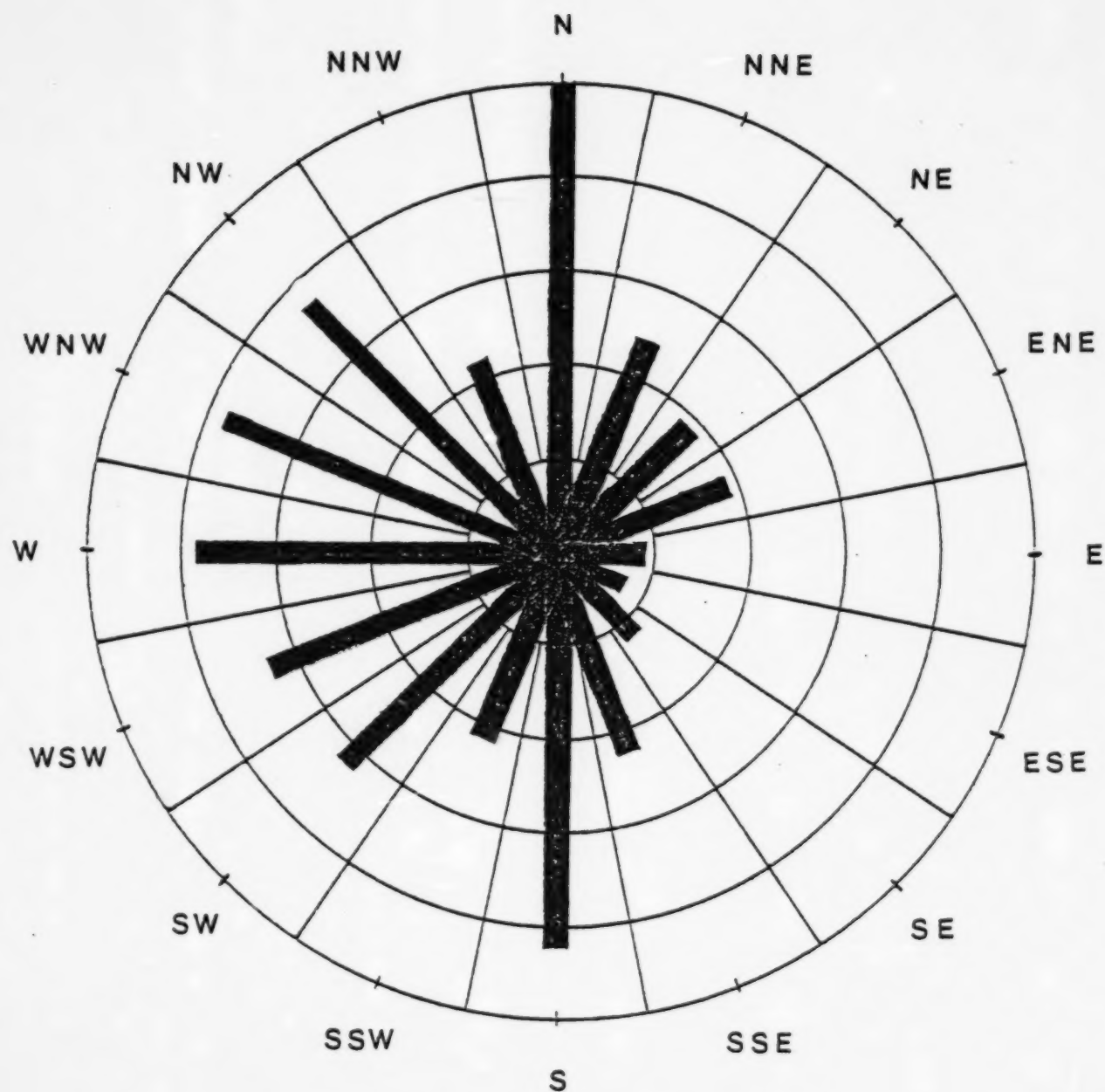


FIGURE 4-1. WIND ROSE FOR PROVIDENCE, RHODE ISLAND, IN 1974

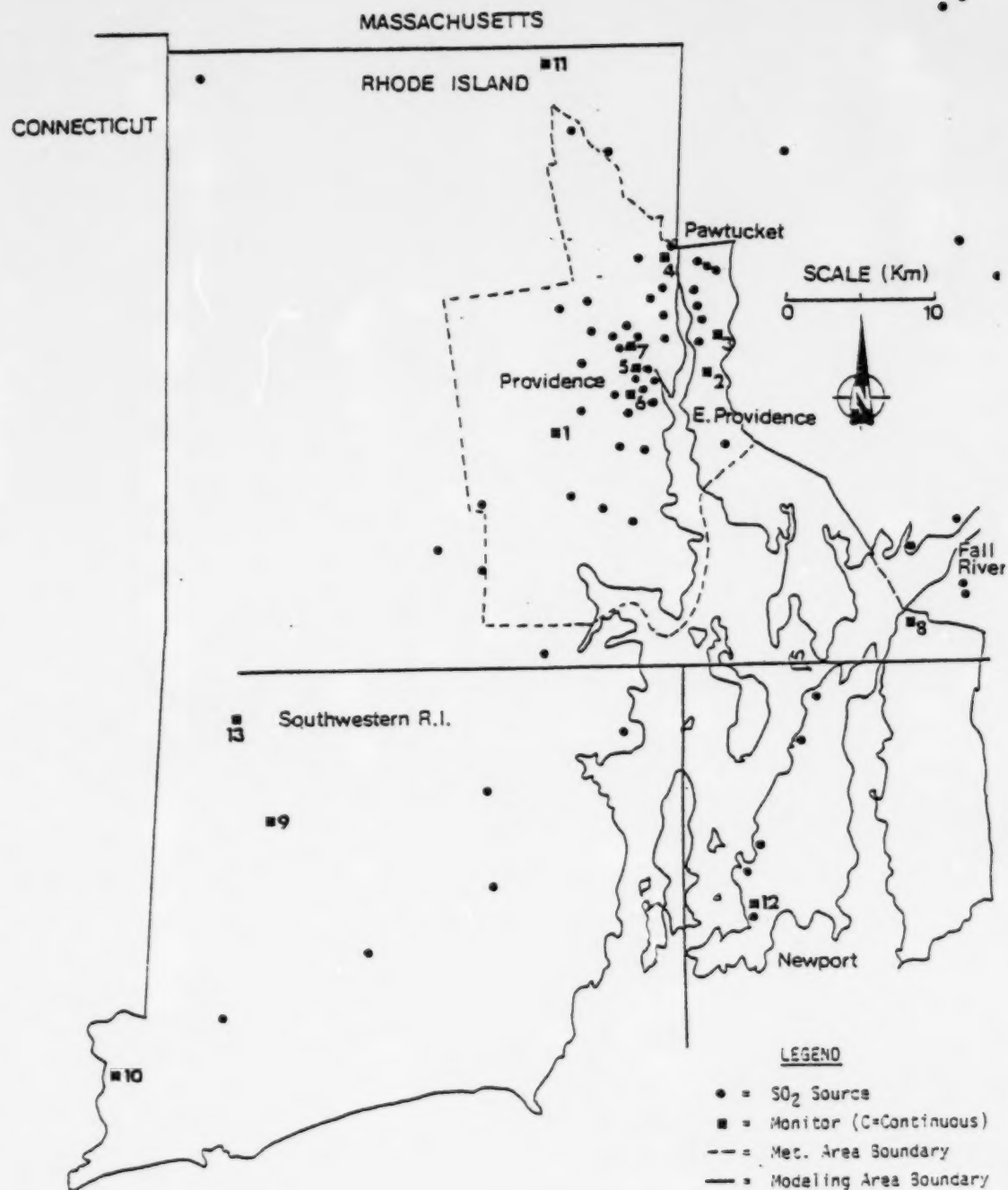


FIGURE 4-2. SO₂ MONITOR LOCATIONS

TABLE 4-4
RHODE ISLAND SO₂ MONITORING STATION DATA

Monitor Site	Site Number	Method	UTM Coord.		3-Hour ⁺ Max	---SO ₂ Measurement (ug/m ³)---			Annual Average	Additional Note
			E	N		2nd Max.	Max	2nd Max.		
<u>Metropolitan</u>										
1. Cranston Police Dept.	41 0100 001 F01	Bubbler	294.5	4628.4	(76)	-	46	-	11	Start-up date 6/76 Months 4-5 missing
2. E. Providence-Jr. High	41 0120 001 F01	Bubbler	303.3	4632.2	(68)	-	45	-	14	
3. E. Providence-Wilson School	41 0120 007 F01	Bubbler	304.0	4634.7	-	-	35	-	**	Months 4-5 missing
4. Pawtucket-City Hall	41 0200 002 F01	Bubbler	302.3	4638.9	-	-	50	-	**	
5. Providence-Dyer St.	41 0300 007 F01	Bubbler	300.0	4632.5	(194)	-	137	-	51	Annual average is 1977 value
6. Providence-St. Joseph	41 0300 007 F01	Continuous	300.0	4632.5	432	419	223	212	59	
7. Providence Health Dept.	41 0300 008 F01	Bubbler	298.7	4630.9	-	-	111	-	**	Months 4-5 missing
8. Providence Health Dept.	41 0300 011 F01	Bubbler	299.5	4633.8	(251)	-	143	-	29	
9. Providence Health Dept.	41 0300 011 F01	Continuous	299.5	4633.8	321	314	234	196	41	1977 Data
<u>Non-Metropolitan</u>										
10. Tiverton-Police Dept.	41 0350 001 F01	Bubbler	317.8	4614.7	(208)	-	101	-	13	1977 Data
11. Arcadia	41 0380 002 F03	Bubbler	275.2	4602.7	(28)	-	21	-	9	
12. Westerly-Police Dept.	41 0400 002 F01	Bubbler	263.3	4584.2	(53)	-	37	-	13	
13. Woonsocket-City Hall	41 0460 001 F01	Bubbler	292.7	4652.9	(158)	-	77	-	10	
14. Newport City Hall	41 0180 001 F01	Bubbler	306.9	4595.6	(173)	-	93	-	16	1977 Data
15. URI-Walton Jones	41 0140 008 F03	Continuous	273.4	4610.4	79	78	55	51	**	

* Bubbler data measured in 1976, Continuous data measured in 1978.
 † Parenthesized values estimated from Larsen model assuming log normal pollutant distribution.
 ** Data does not meet SAROAD Summarization Criteria (missing data).

concentrations listed in the table are the highest and second-highest measurements for the sampling year. The year of measurement is 1978 for the continuous monitors and 1976 for gas bubblers. More recent gas bubbler data is not available because of large periods of missing data at all these sites.

The non-continuous (bubbler) data presented in Table 4-4 is measured only on a 24-hour basis, from which annual averages are calculated. The three-hour concentrations for these sites are therefore estimated by use of Larsen's statistical air quality model [11]. The key characteristics of the Larsen model employed here is that "maximum concentrations are approximately inversely proportional to averaging time raised to an exponent." It should be noted that the Larsen model is based on ambient measurements in eight urban centers and assumes a lognormal concentration distribution; this may not necessarily hold true for the non-metropolitan sites. However, as the ambient SO₂ levels measured at the non-metropolitan sites are quite low, errors in extrapolating 3-hour measurements are unlikely to impact the study conclusions.

The background SO₂ data in Table 4-4 is used with RAM modeling predictions to assess the future air quality relative to NAAQS standards. The appropriate background value is added to the candidate source SO₂ impacts for comparison with the NAAQS standard; the background value therefore summarizes area source, small point source, and regional ambient SO₂ concentrations. The background value at a given monitor is selected as follows:

1. Metropolitan area - Continuous monitors are used. The maximum short-term measurements and average annual measurements are selected initially as representative background values. In the case of exceedance of NAAQS standards, an estimation of candidate source impact at the monitoring sites is made from the results of the baseline case modeling. If necessary, the background value is decreased to reflect this impact (which is not part of the background). See Section V (A) for a description of baseline case modeling and adjustments made to metropolitan area monitored values.

2. Non-Metropolitan area - Only bubbler data is available. The maximum short-term measurements and average annual measurements are used as background values; no adjustments are made. 3-hour concentrations are estimated from 24-hour and annual averages.

In both areas, computed background values from the nearest monitor are assigned to receptor locations.

The background SO₂ air quality data actually used for assessing NAAQS levels is presented in Table 4-5. Note that all data is taken directly from Table 4-4 excepting the "metropolitan" data, which is adjusted downward to reflect the nominal impact of candidate point sources. This was based on the results of baseline case modeling and is described in Section V (A).

TABLE 4-5
SUMMARY OF BACKGROUND AIR QUALITY DATA

Geographic Area	Maximum SO ₂ Concentrations (ug/m ³)			Comment
	Annual	24-Hour	3-Hour	
Metropolitan*	31	229	321	Annual, 24-hour values are adjusted for point source impact.
Health Dept. Dyer St.	41	212	432	
Newport+				
Newport City Hall	16	93	(173)	Annual, 24-hour values unadjusted. 3-hour value is estimated.
S.W. Rhode Island+				
Arcadia	9	21	(28)	Annual, 24-hour values unadjusted, 3-hour value is estimated.
Westerly	13	37	(53)	
N.W. Rhode Island+				
Woonsocket	10	77	(158)	Annual, 24-hour values unadjusted. 3-hour value is estimated.

* Data measured in 1978 excepting Health Dept. annual average, which was recorded in 1977.

+ Year of measurement is 1976.

V. RESULTS

A. BASELINE CASE MODELING

The baseline case was an initial RAM modeling run of 74 point sources in Providence and S.E. Massachusetts based on average 1978 emission rates (see source data in Table 4-1, and RAM input for the baseline case in Appendix B). Meteorological year 1974 was input for this modeling run. The purpose of this modeling was to determine the extent of candidate point source impacts at the two Providence continuous monitoring sites, and to adjust the background data to reflect this impact. Essentially, the candidate source impact may be "subtracted out", since the background is derived from all sources but these.

The candidate sources were found to have a moderate impact at the two monitoring sites (Dyer St. and Health Dept.) in downtown Providence. The modeling results from the AQSTAT program (RAM output processor), including estimated maxima for all averaging periods, is reproduced in Appendix B. The RAM baseline predictions and corresponding maximum measurements are summarized in Table 5-1. Note that model predictions are considerably lower than ambient measurements because only "candidate" sources are modeled. It is evident from the table that the candidate sources have a greater percentage impact at the Dyer St. site, and that at Dyer St. the maximum impact is on the order of 50 percent of the maximum measurement. For the annual average case, the predicted annual average may be simply subtracted from the measured annual average to arrive at the correct background level. This yields annual average background values of 41 ug/m^3 at Dyer St. and 31 ug/m^3 at the Health Department. This adjustment is reflected in Table 4-5, the background SO_2 data summary.

For the short-term averaging periods, direct subtraction of measured and predicted maxima does not work because the two values are not coincident in time, nor related by similar meteorological conditions such as stability, wind speed, and wind direction. Therefore, an analysis was

TABLE 5-1
METROPOLITAN AREA BASELINE CASE RESULTS+

	Dyer St.	Health Dept.
<u>ANNUAL (ug/m³)</u>		
Measured*	59	41 (1977)
Predicted	18	10
<u>24-HOUR (ug/m³)</u>		
Measured High*	223	234
Predicted High	102	61
Measured 2nd High	212	196
Predicted 2nd High	100	55
<u>3-HOUR (ug/m³)</u>		
Measured High	432	321
Predicted High	288	138
Measured 2nd High	419	314
Predicted 2nd High	243	135

+ Predictions based on RAM (urban) modeling of 74 point sources in Providence and S.E. Massachusetts at 1978 average emission rates, 1.0% sulfur. (Mass. sources modeled at 1977 average rates, nominal sulfur level.)

* Year of data measurement is 1978 unless otherwise noted.

made of the average baseline concentration at the two monitors for days meteorologically similar to the day of the measured maximum. The definition of meteorologically similar in this case was (a) wind direction within $\pm 5^\circ$ and (b) equivalent modal stability, i.e., the hourly atmospheric stability which occurs most often in the day. This analysis was undertaken only for the 24-hour case due to unavailability of output 3-hour concentrations for all periods. The 24-hour concentration adjustments are summarized in Table 5-2. There are no adjustments made to the 3-hour measurements, although it is clear that some adjustment can be justified. However, by comparing the measurements with the 3-hour NAAQS standard (1300 $\mu\text{g}/\text{m}^3$) and the 3-hour PSD increment (512 $\mu\text{g}/\text{m}^3$), it can be seen that the PSD increment is the controlling standard regardless of adjustments made to the background levels. It is important, though, that the fact of non-adjusted 3-hour background data be kept in perspective, should the 3-hour NAAQS limits be exceeded by a small margin.

B. FUTURE CASE (2.2% S.) MODELING

1. Metropolitan Providence Area

RAM modeling was undertaken for 59 point sources in the Providence metropolitan area and 26 point sources in Massachusetts to determine if conversion to 2.2 percent sulfur at these facilities was viable with respect to the appropriate air quality standards. Three separate "conversion scenarios" were evaluated: 1) major sources (10 points), 2) major and medium sources (22 points), and 3) all candidate sources (59 points). The Massachusetts sources are included as "background" sources for the NAAQS determination; since they are not switching fuel, they do not consume the PSD increment. In the following section, the numerical modeling results for each scenario and averaging period are presented, as well as isopleths of the critical results.

TABLE 5-2
24-HOUR BASELINE CONCENTRATION ADJUSTMENTS

	Dyer St.	Health Dept.
Measured High, 1978	223 ug/m ³	234 ug/m ³
Day of Measurement (Julian)	346	6
Wind Direction	248°	306°
Modal Stability	4	4
Average Prediction+	11 ug/m ³	5 ug/m ³
(No. Similar Days)	(14)	(17)
Difference (M-Avg. P)	212 ug/m ³	229 ug/m ³

+ Predictions averaged for all days with resultant wind direction within $\pm 5^\circ$ and equivalent modal stability.

The RAM inputs for each scenario and summary of RAM outputs (AQSTAT program) are included in Appendix C. Table 5-3 lists the results for Providence with respect to the PSD and NAAQS standards. The ambient standards and background values used are footnoted in the table, and model estimates which exceed the standards are underlined. For the short-term averaging periods, the highest and highest-second high results are given; normally the latter is the critical value, but since only one year of meteorological data was used in the analysis (as opposed to 5 years), the former value is considered appropriate for this situation. The table indicates that fuel conversion is not viable for any scenario, as the allowable PSD increment and NAAQS standard is always violated for the 24-hour averaging period. In addition, the estimated annual PSD increment and NAAQS standard is exceeded for all scenarios. Violations of the 3-hour PSD increment and NAAQS standard also occur for Scenarios 2 and 3.

It should be noted that the annual results are overestimated in the table due to the use of maximum emission rates instead of average rates; if average rates were used, the Scenario 1 annual increment would possibly not be exceeded, and the other two annual increments potentially might not be violated. Also, the predicted violations for the 3-hour NAAQS are not thoroughly convincing since the 3-hour background value was not adjusted for candidate point source impact (see Section IV (D)). However, the 24-hour standards are exceeded by wide margins for PSD (at least 87%) and NAAQS (at least 48%). The 24-hour PSD increment violation for Scenario 1 occurred a total of 73 times on 63 days in meteorological year 1974, at a number of different receptors. Nearly one-half of those predicted violations occurred in the summer months (June, July, August).

Isopleths of maximum estimated SO₂ concentrations in the metropolitan area for all averaging periods are given in Figures 5-1 through 5-6 for fuel conversion Scenario 1 only. Scenario 1 is shown because it is representative of all three conversion scenarios. Figures 5-1 through 5-3 represent PSD increment consumption, and NAAQS concentrations are presented in Figures 5-4 through 5-6. The isopleths indicate the

TABLE 5-3
RAM MODELING RESULTS FOR PROVIDENCE*

	PSD Increment (ug/m ³)			NAAQS (ug/m ³)		
	Scen. 1	Scen. 2	Scen. 3	Scen. 1	Scen. 2	Scen. 3
Annual	<u>26</u>	<u>34</u>	<u>44</u>	<u>106</u>	<u>114</u>	<u>124</u>
24-hour, High	<u>231</u>	<u>232</u>	<u>236</u>	<u>640</u>	<u>641</u>	<u>645</u>
H. of 2nd High	<u>202</u>	<u>203</u>	<u>205</u>	<u>585</u>	<u>586</u>	<u>589</u>
3-hour, High	468	570	577	1298	1372	1379
H. of 2nd High	436	436	449	1247	1247	1262

* Applicable standards are (Annual, 24-hour, 3-hour).

- 1) PSD - 20 ug/m³, 91 ug/m³, 512 ug/m³;
- 2) NAAQS - 80 ug/m³, 365 ug/m³, 1300 ug/m³.

+ Background values used (Annual, 24-hour, 3-hour).

- 1) Dyer St. - 41 ug/m³; 212 ug/m³; 432 ug/m³;
- 2) Health Dept. - 31 ug/m³; 229 ug/m³; 321 ug/m³.

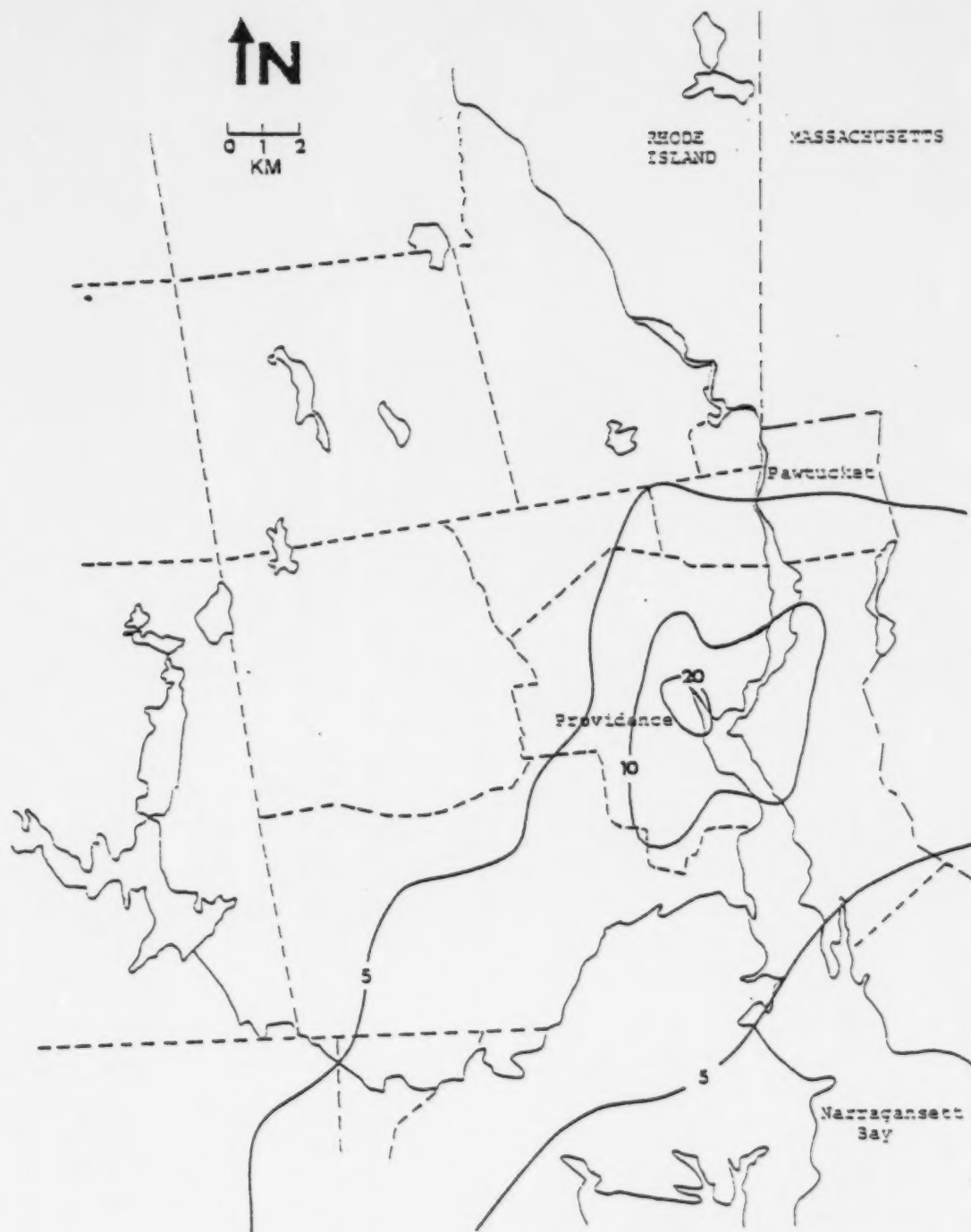


FIGURE 5-1. METROPOLITAN AREA SO₂ ISOPLETH - ANNUAL PSD INCREMENT (SCENARIO 1)

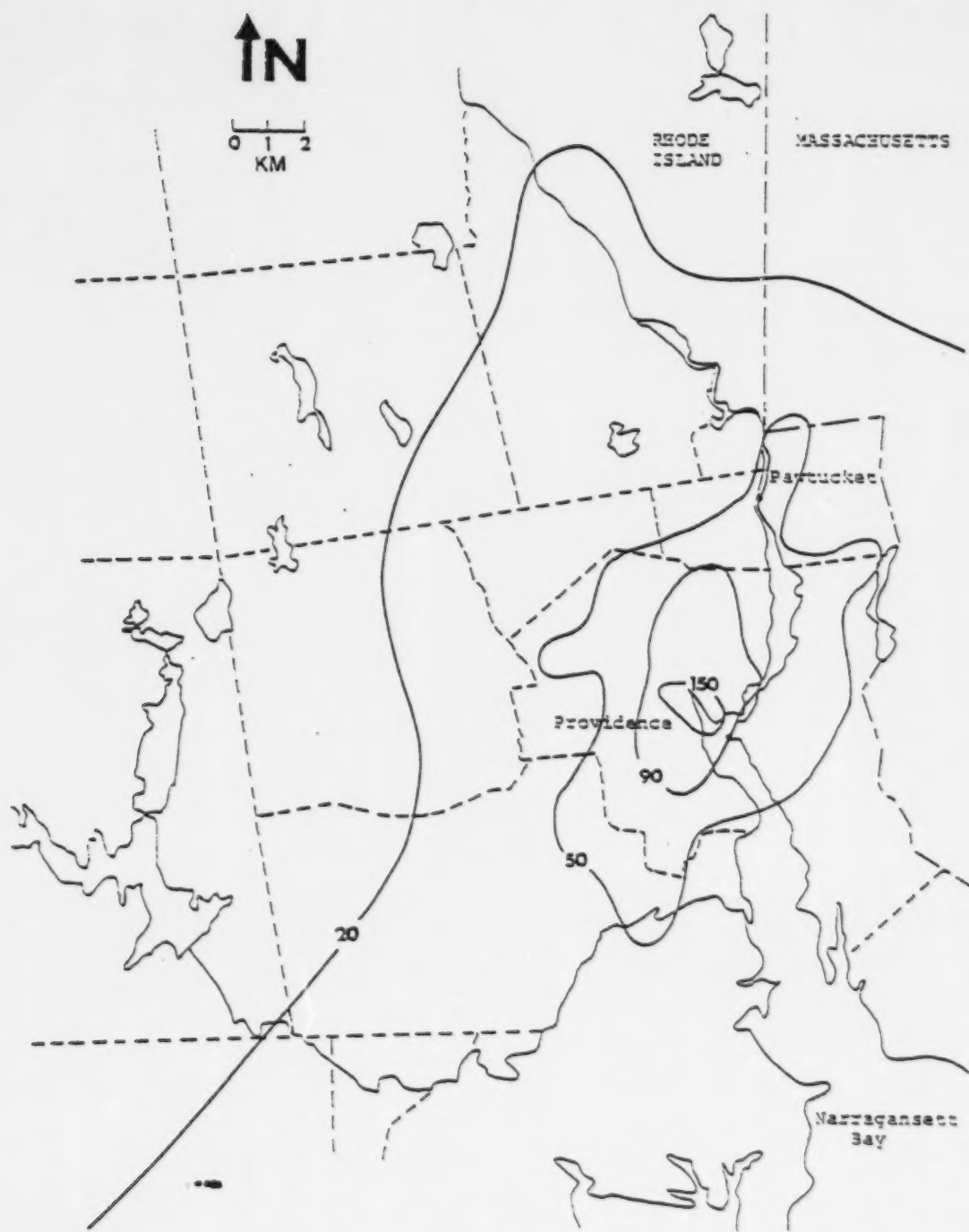


FIGURE 5-2. METROPOLITAN AREA SO₂ ISOPLETH - 24-HOUR MAXIMUM PSD INCREMENT (SCENARIO 1)

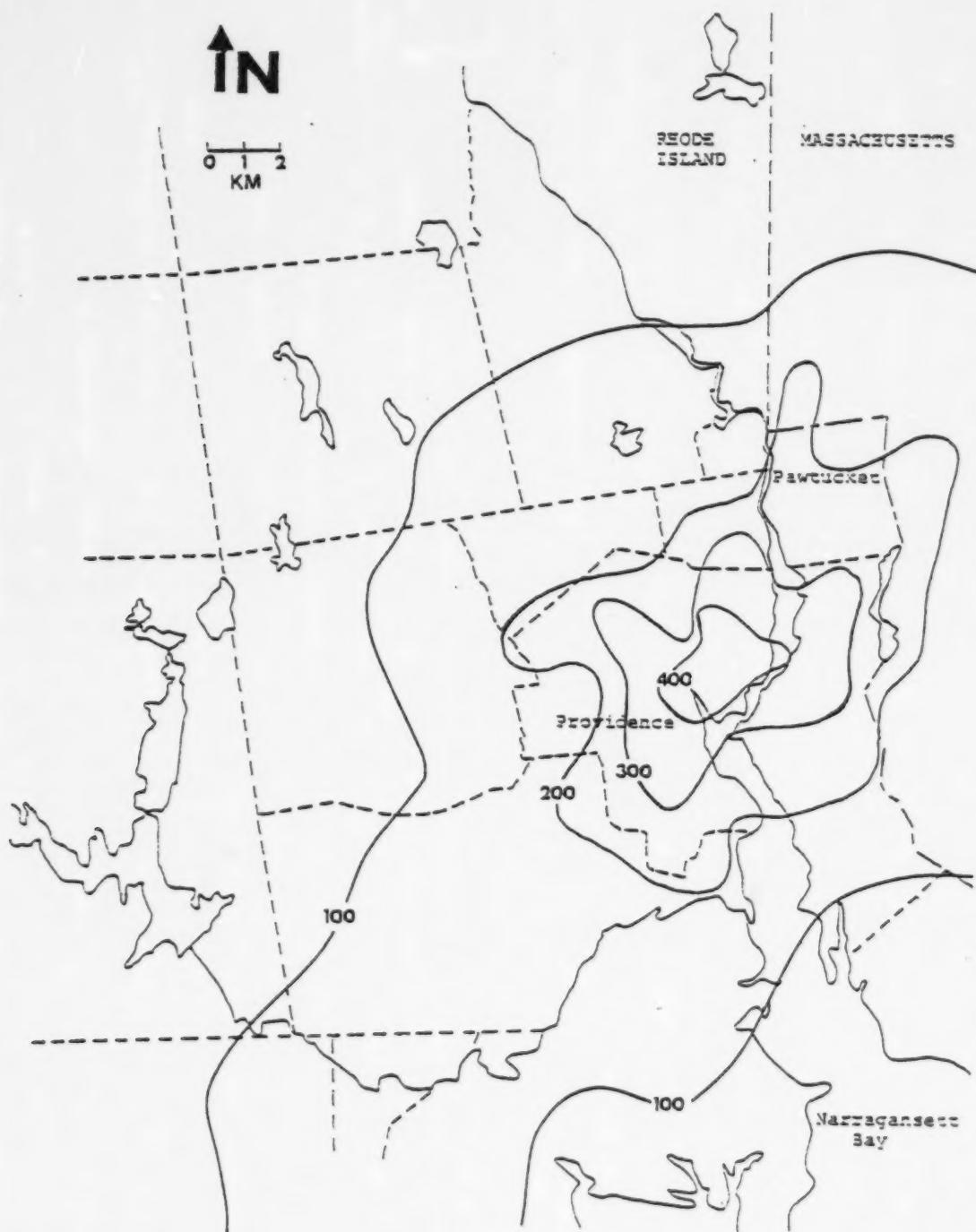


FIGURE 5-3. METROPOLITAN AREA SO_2 ISOPLETH - 3-HOUR MAXIMUM PSD INCREMENT (SCENARIO 1)

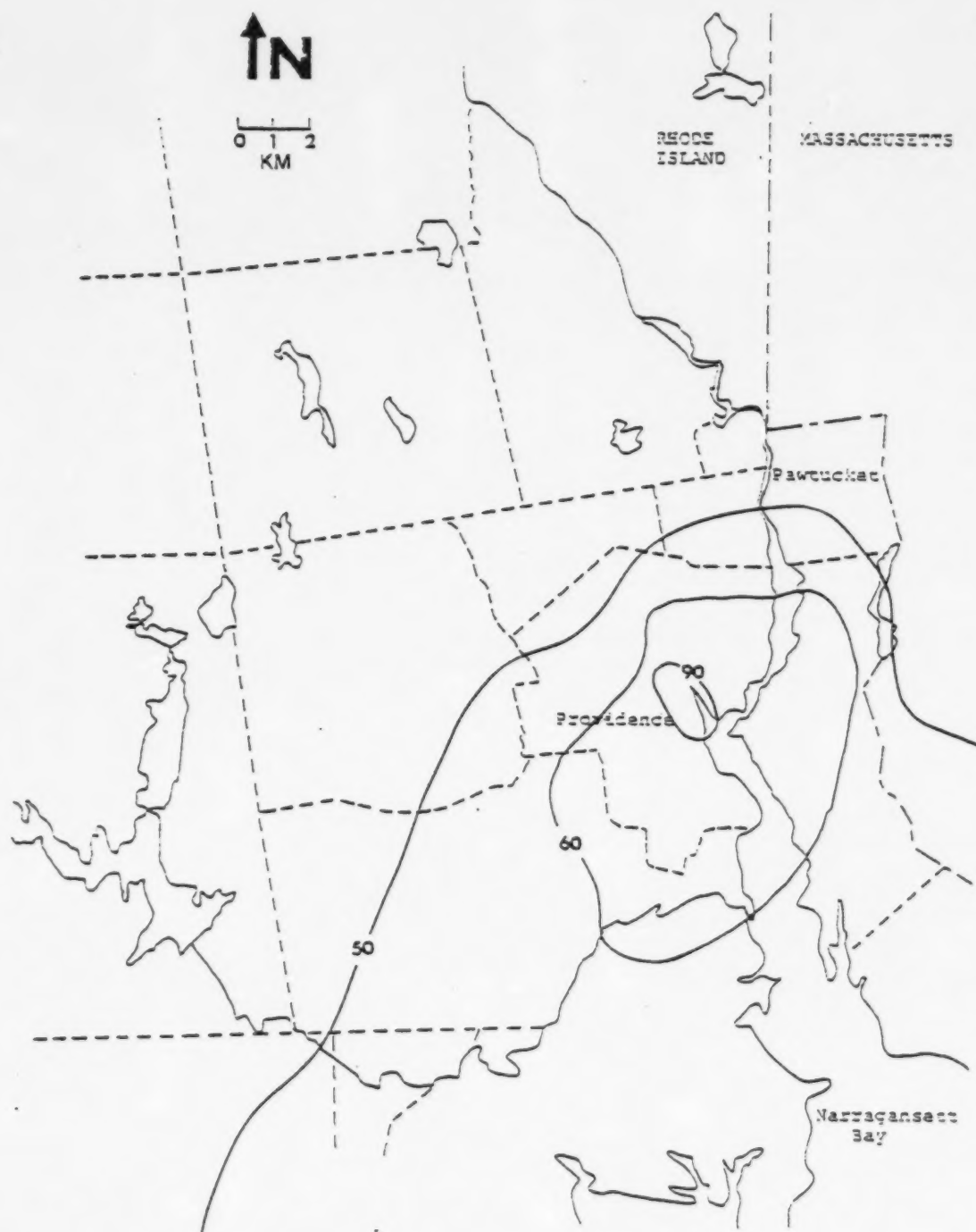


FIGURE 5-4. METROPOLITAN AREA SO₂ ISOPLETH-ANNUAL NAAQS (SCENARIO 1)

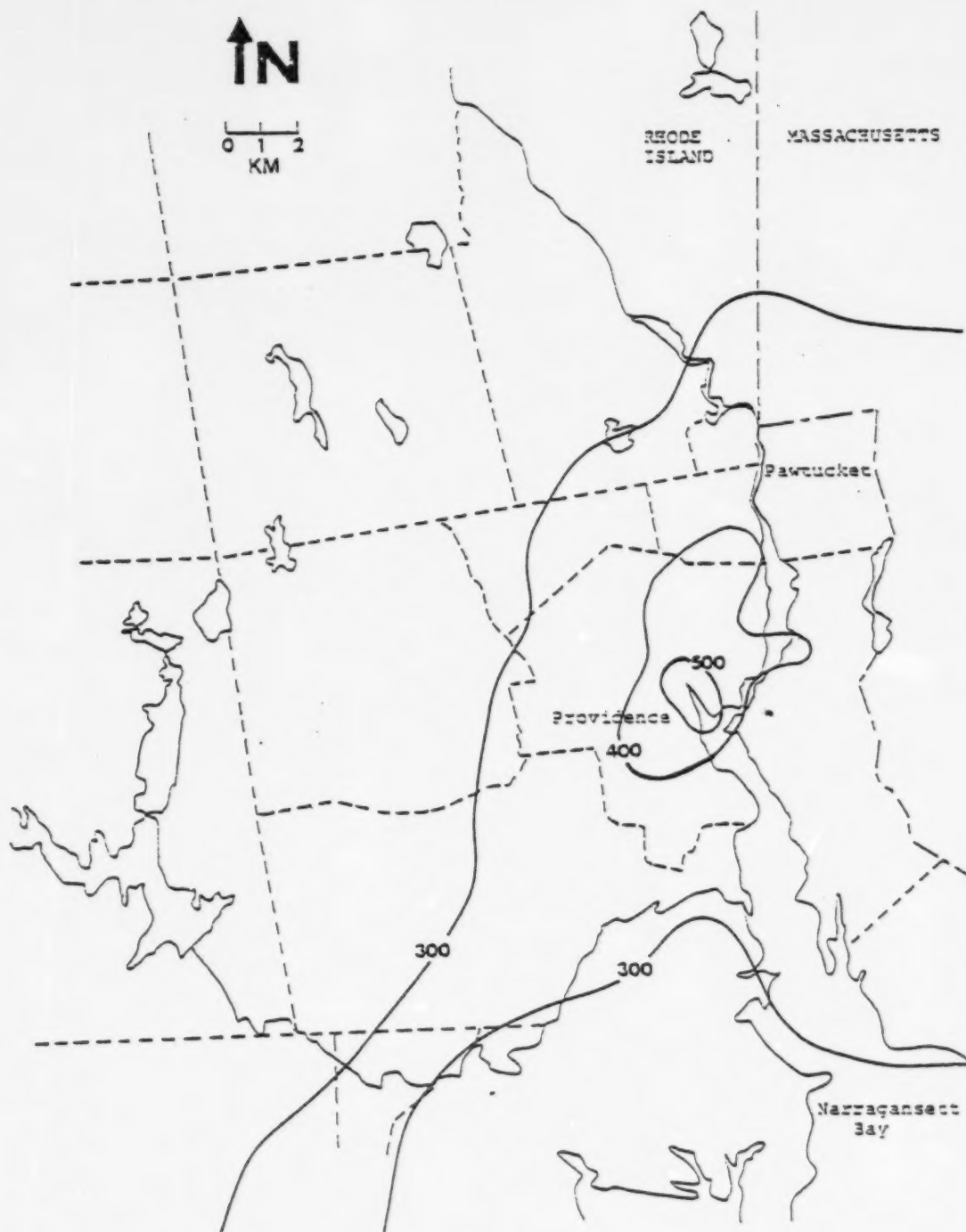


FIGURE 5-5. METROPOLITAN AREA SO₂ ISOPLETH - 24-HOUR MAXIMUM NAAQS (SCENARIO 1)

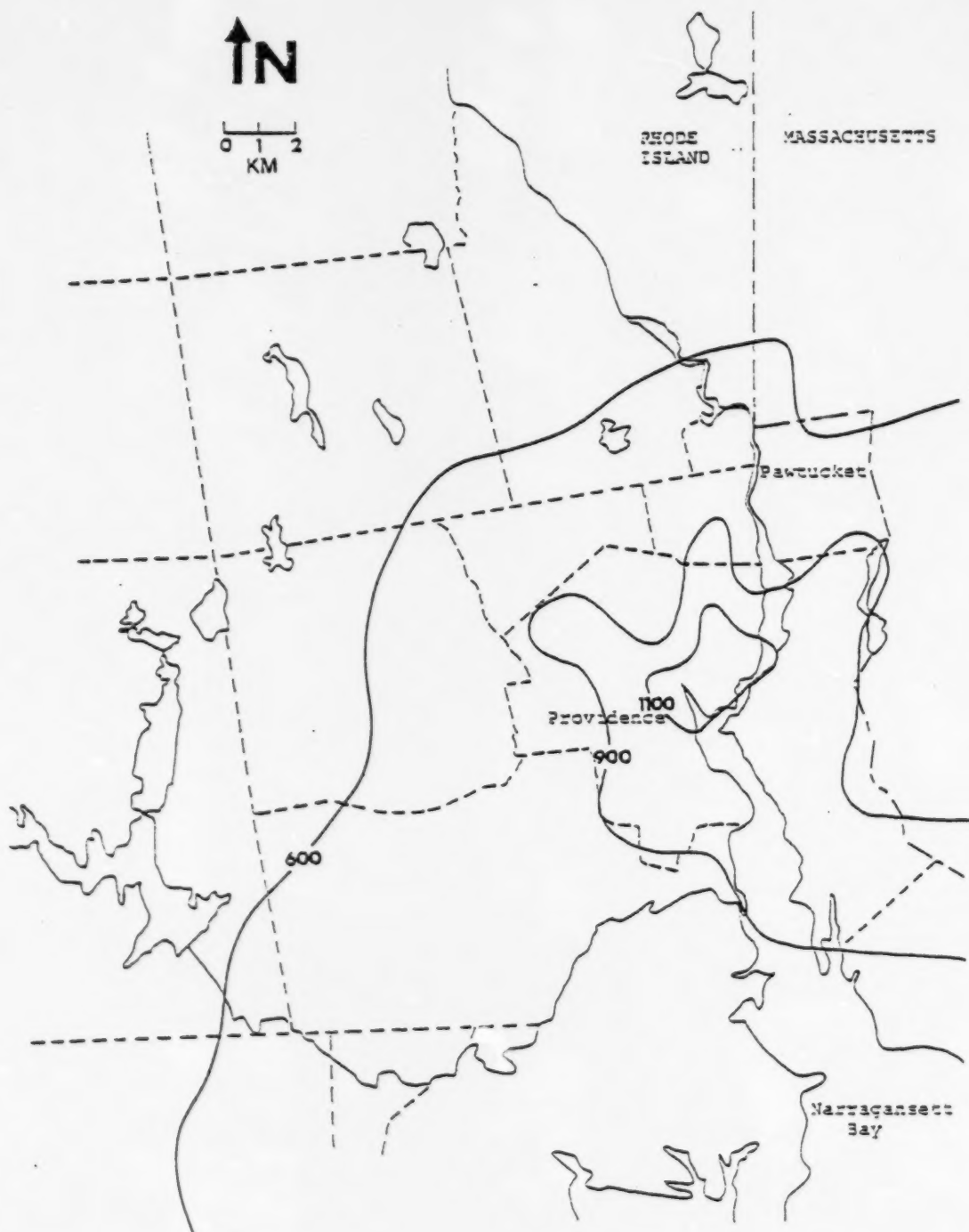


FIGURE 5-6. METROPOLITAN AREA SO₂ ISOPLETH - 3-HOUR NAAQS MAXIMUM (SCENARIO 1)

areal extent of standard violations for various averaging periods; the maximum predicted concentration at each receptor is depicted. Note that the area of maximum impact for both PSD and NAAQS is confined to downtown Providence, and occasionally small portions of E. Providence. The largest areal standard violation occurs for the 24-hour PSD (Figure 5-2) and NAAQS (Figure 5-5) cases; the greater portion of Providence county and parts of E. Providence county are areas of predicted standard violation.

2. Non-metropolitan Areas

Evaluation of the proposed fuel oil conversion to 2.2 percent sulfur in the non-metropolitan areas of Newport and S.W. Rhode Island was made with the RAMR (rural) model, and in N.W. Rhode Island with the CRSTER model. (The N.W. area only contains a single facility, Zambarano Hospital, near Harrisville.) Figure 3-5 is a schematic diagram of the location of the study areas.

The initial assumption in defining the study areas and receptor networks was that the non-metropolitan areas do not significantly interact (i.e., a Newport source will not have a significant impact on the neighboring area, S.W. Rhode Island, and vice-versa). This assumption was tested and justified by the study results, and is described in part 3, (Study Area Interactions) of this section. Also, it was assumed that the Providence area candidate sources would impact significantly on the non-metropolitan areas, so evaluation of this combined impact is made below. However, since each geographic area is to be considered independently (i.e., assume there are no sources switching fuel in Providence), these results are also considered in the discussion following.

The RAM model inputs for all conversion scenarios in Newport and S.W. Rhode Island are found in Appendix C. CRSTER input data for the sole N.W. Rhode Island source is also in Appendix C. There are two conversion scenarios each for the Newport and S.W. Rhode Island areas, consisting of medium and small sources in Newport, and major and small sources

in S.W. R.I. (With no sources in a given category, there cannot be a conversion scenario.) For the single N.W. R.I. source, since it is designated a small source, there is only Scenario 3.

A single meteorological year (1974) was used for all study areas; hence the emphasis on the highest estimated concentration in the following results rather than the highest, second-highest. However, the CRSTER model was run for 5 years (1970-4) in N.W. R.I., the highest, second-highest model estimate for that period is the appropriate value to use.

The RAMR results for all averaging periods and scenarios in the Newport and S.W. R.I. areas as summarized by the AQSTAT program are given in Appendix C. The CRSTER modeling results for Zambarano Hospital are summarized in Table 5-4. These results are based on 2.2 percent sulfur and are not directly comparable to PSD increments. As one column indicates, the maximum percentage fluctuation of the predicted maxima for the 5 study years is on the order of 20 percent. The "1974/Max." percentage fluctuation is also shown to assess if 1974 is a reasonably representative meteorological year. Although the data as presented does not support a conclusion, it is noteworthy that the 1974 maxima are neither the highest or lowest of the 5 study years for all averaging periods.

The non-metropolitan modeling results are given in Table 5-5. For the Newport and S.W. Rhode Island areas, the SO₂ impacts from Providence are added in on an hour-by-hour basis; the maximum Providence impact at Zambarano Hospital is added to the N.W. Rhode Island results as a constant value. Therefore the concentrations predicted for N.W. R.I. area in Table 5-5 should be viewed as conservative estimates. As the table shows, there are no predictions of violations of PSD increments or NAAQS standards for any study area. Since this includes Providence impacts, it follows that without Providence impacts (i.e., a non-metropolitan area converts independently) the SO₂ concentration estimates will be lower and

TABLE 5-4
CRSTER SUMMARY (ZAMBARANO HOSPITAL)

	Source SO ₂ Concentration (ug/m ³ ; 2.2% Sulfur)						% Difference, 1974/Max.
	1970	1971	1972	1973	1974	Difference	
Annual Average	4.12	3.92	<u>4.66</u>	4.17	4.06	19%	15%
24-Hour Maximum	50.3	<u>60.3</u>	53.8	56.3	58.0	20%	4%
Highest, 2nd High	40.8	<u>46.4</u>	45.0	45.0	41.1	14%	13%
3-Hour Maximum	112.5	116.1	147.9	122.1	133.6	31%	11%
Highest, 2nd High	107.0	111.5	<u>109.7</u>	<u>119.3</u>	113.2	11%	5%

TABLE 5-5
RAM MODELING RESULTS FOR NON-METROPOLITAN AREAS*

	Standard (ug/m ³)*		PSD Increment (ug/m ³)		MAQS (ug/m ³), Background Included		Background	
	PSD	MAQS	[Concentration, Prov. impact]++	Scen. 3	[Concentration, Prov. impact]+++	Scen. 2	Scen. 3	A B++
Newport (+ Prov.)								
Annual	20	80	-	7.4 (7%)	8.6 (8%)	35.3 (30%)	36.5 (29%)	16
24-hour, High	91	365	-	63 (0%)	65 (0%)	283 (38%)	286 (38%)	93
H. of 2nd High	-	-	-	62 (0%)	64 (0%)	266 (33%)	268 (33%)	(173)**
3-hour, High	512	1300S	-	163 -	168 -	684 -	684 -	
H. of 2nd High	-	-	-	131	141	641 -	642 -	
S.W. Rhode Island (+ Prov.)								
Annual	20	80	3.1 (32%)	-	3.9 (41%)	26.7 (62%)	27.5 (63%)	9
24-hour, High	91	365	22 (17%)	-	24 (58%)	169 (89%)	170 (89%)	21
H. of 2nd High	-	-	20 (40%)	-	24 (51%)	164 (80%)	166 (81%)	37
3-hour, High	512	1300S	65	-	82 -	517 -	517 -	(28)**
H. of 2nd High	-	-	64	-	76 -	489 -	489 -	(53)**
N.W. Rhode Island (+ Prov.)								
Annual	20	80	-	-	2.8 (11%)	-	15.6 (6%)	10
24-hour, High	91	365	-	-	40 (18%)	-	158 (13%)	77
H. of 2nd High	-	-	-	-	32 (22%)	-	144 (15%)	(158)
3-hour, High	512	1300S	-	-	117 (31%)	-	468 (35%)	
H. of 2nd High	-	-	-	-	101 (36%)	-	439 (37%)	

+ Providence impact on non-metropolitan area included in data.

* Primary standards, "S" = Secondary.

++ A, B are monitor codes as follows:

- 1) Newport: A = Newport City Hall
- 2) SW R.I.: A = Arcadia; B = Westerly
- 3) NW R.I.: A = Woonsocket

** Estimated from Larsen assumption of lognormality of frequency distribution.

+++ Percentage point source impact from Providence (and Massachusetts) sources on day of critical concentrations.

no violations will be predicted. Of the three non-metropolitan areas, the greatest degree of impact from fuel conversion occurs in the Newport area. In particular, a concentration that is 77 percent of the 24-hour NAAQS standard is predicted under Scenario 2, and 69 percent of the 24-hour PSD increment is consumed. The predicted SO_2 impacts in the remaining non-metropolitan areas are less than Newport impacts for all averaging periods and scenarios. In these remaining areas, the greatest PSD impact occurs in N.W. Rhode Island for the 24-hour case where 35 percent of the increment is consumed by the highest, second-high concentration. Excepting Newport, the greatest non-metropolitan impact on NAAQS standards occurs in S.W. Rhode Island where 47 percent of the 24-hour standard is predicted.

Also included in Table 5-5 are the percentages of the maximum concentrations (not including background) contributed by the Providence sources on the critical day or 3-hour period. The 3-hour contributions for Newport and S.W. Rhode Island are not listed due to the unavailability of a 3-hour RAM printout (which is excessive for a 365-day run). The Providence influence on the PSD increment is largest for the S.W. R.I. area (50%), followed by N.W. R.I. and Newport. As Table 5-5 shows, the maximum 24-hour increment consumption in Newport is due solely to the local Newport sources. Contributions to the NAAQS standards from the Providence area are larger than the corresponding PSD values for Newport and S.W. R.I.; this is due to the fact that major Massachusetts sources are "background" sources for the NAAQS determination. The Massachusetts sources are moderately close to the points of impact in Newport and S.W. R.I. (about 16 km and 24 km respectively) and emit SO_2 at a rate an order of magnitude higher than the Providence candidate sources.

Isopleths of maximum estimated SO_2 concentrations over the entire state of Rhode Island for all averaging periods are given in Figures 5-7 through 5-12 for conversion Scenario 3. Scenario 3 is shown because it is the only scenario common to all modeling areas, and it is representative of all three scenarios. Figures 5-7 through 5-9 represent PSD increment consumption, and NAAQS concentrations are presented in Figures 5-10 through 5-12. The maximum model prediction is shown to indicate the areal extent

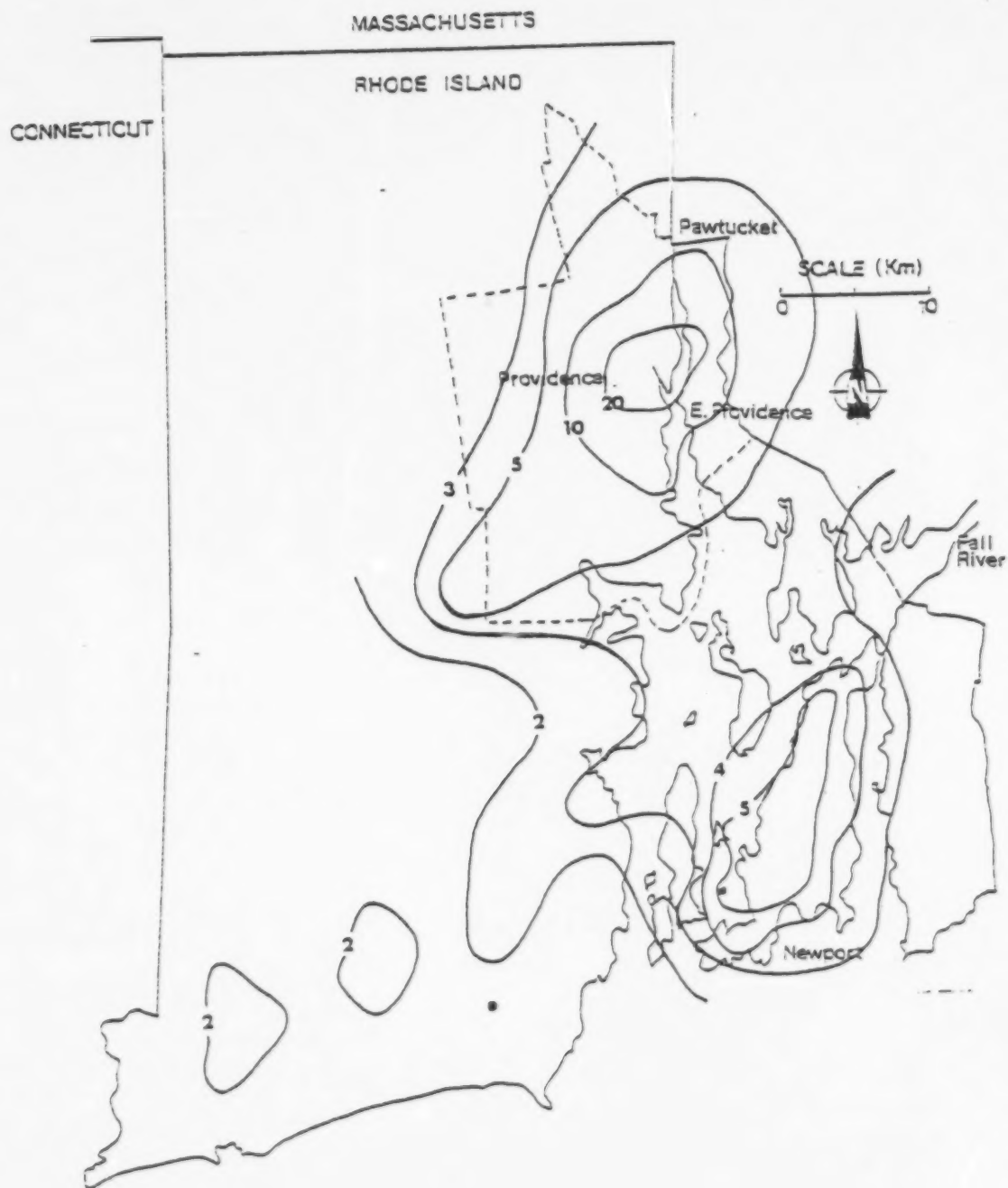


FIGURE 5-7. NON-METROPOLITAN AREA SO_2 ISOPLETH - ANNUAL PSD INCREMENT (SCENARIO 3)

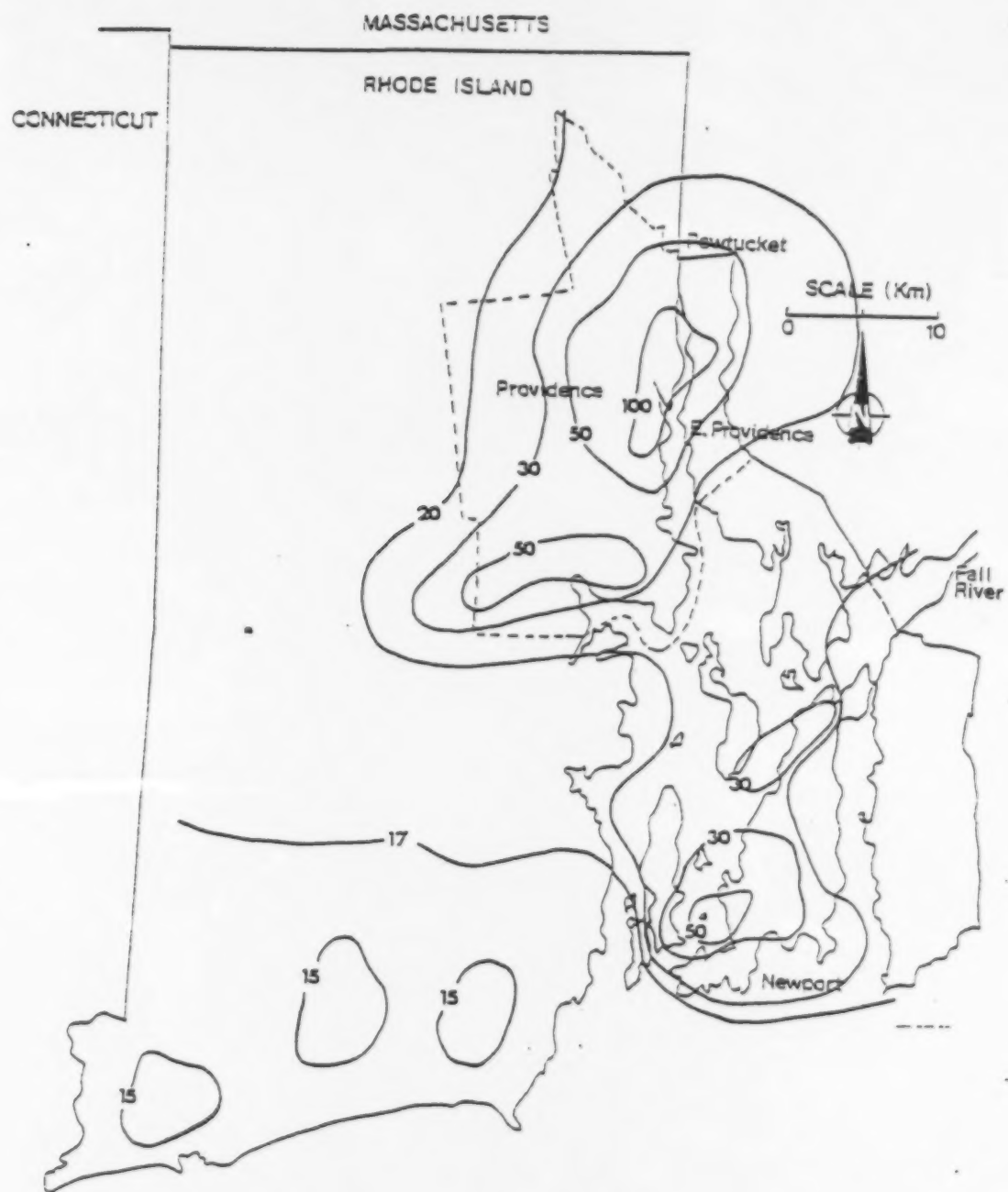


FIGURE 5-8. NON-METROPOLITAN AREA SO₂ ISOPLETH -
24-HOUR PSD INCREMENT (SCENARIO 3)

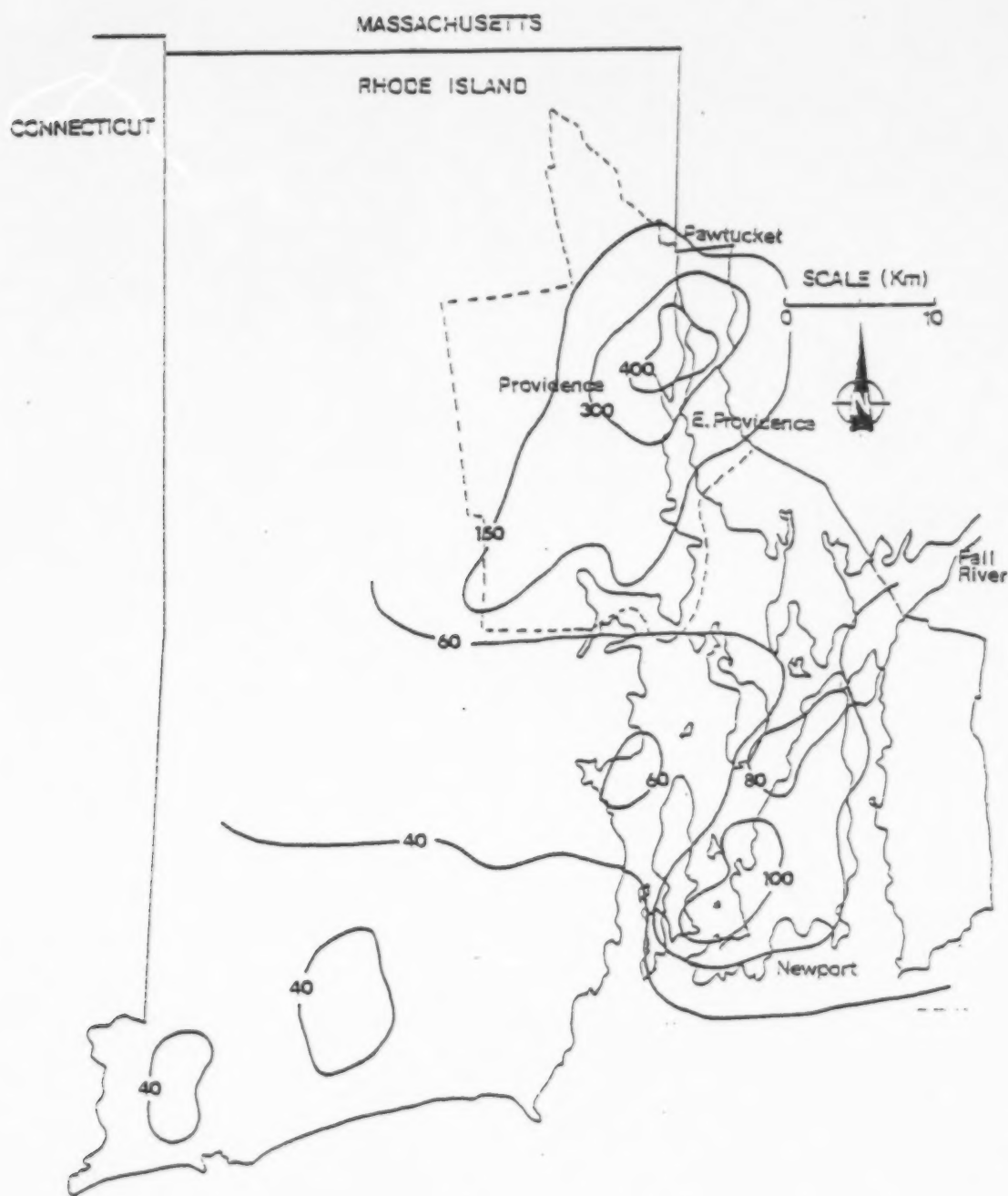


FIGURE 5-9. NON-METROPOLITAN AREA SO_2 ISOPLETH -
3-HOUR PSD INCREMENT (SCENARIO 3)

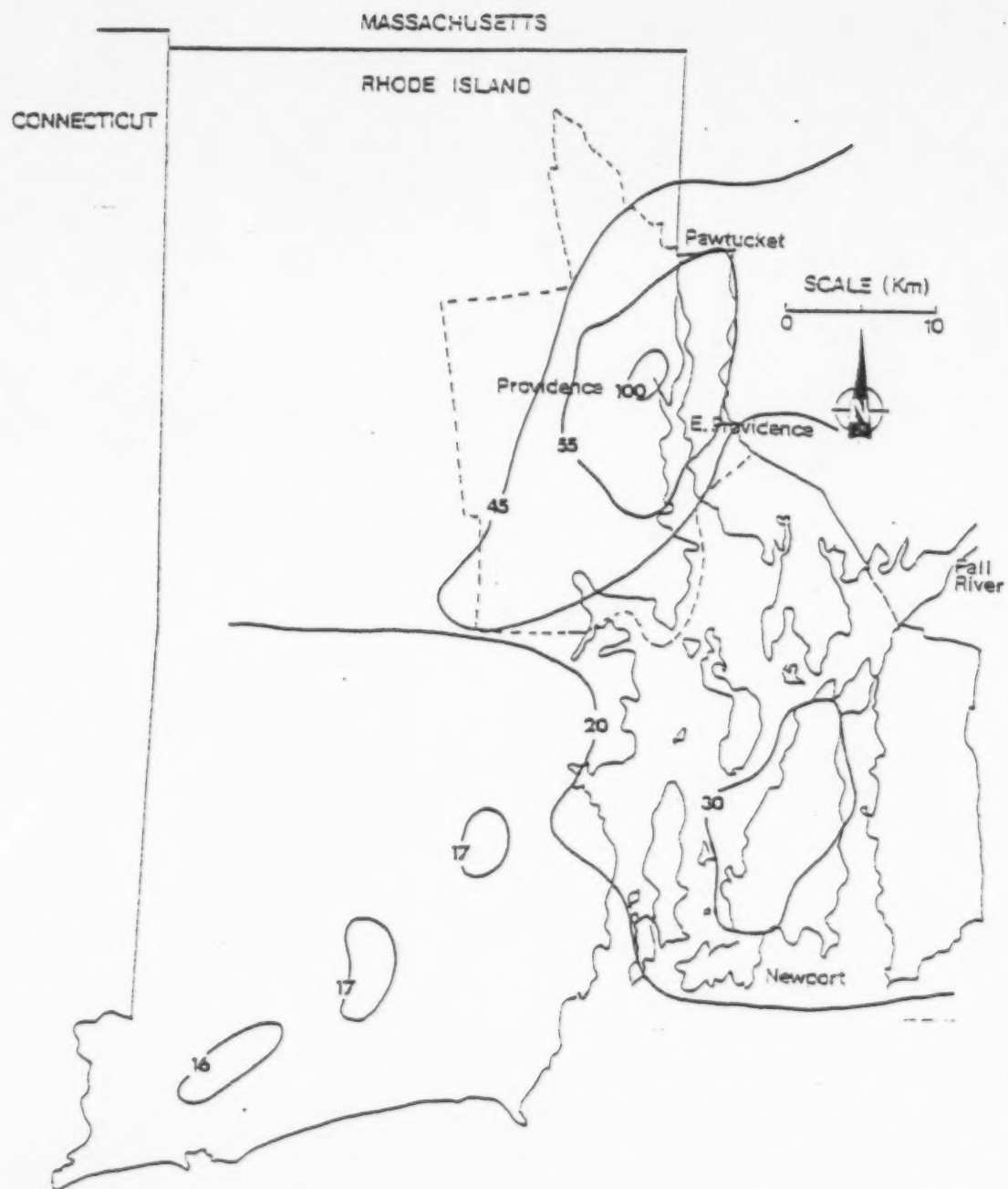


FIGURE 5-10. NON-METROPOLITAN AREA SO₂ ISOPLETH -
ANNUAL NAAQS (SCENARIO 3)

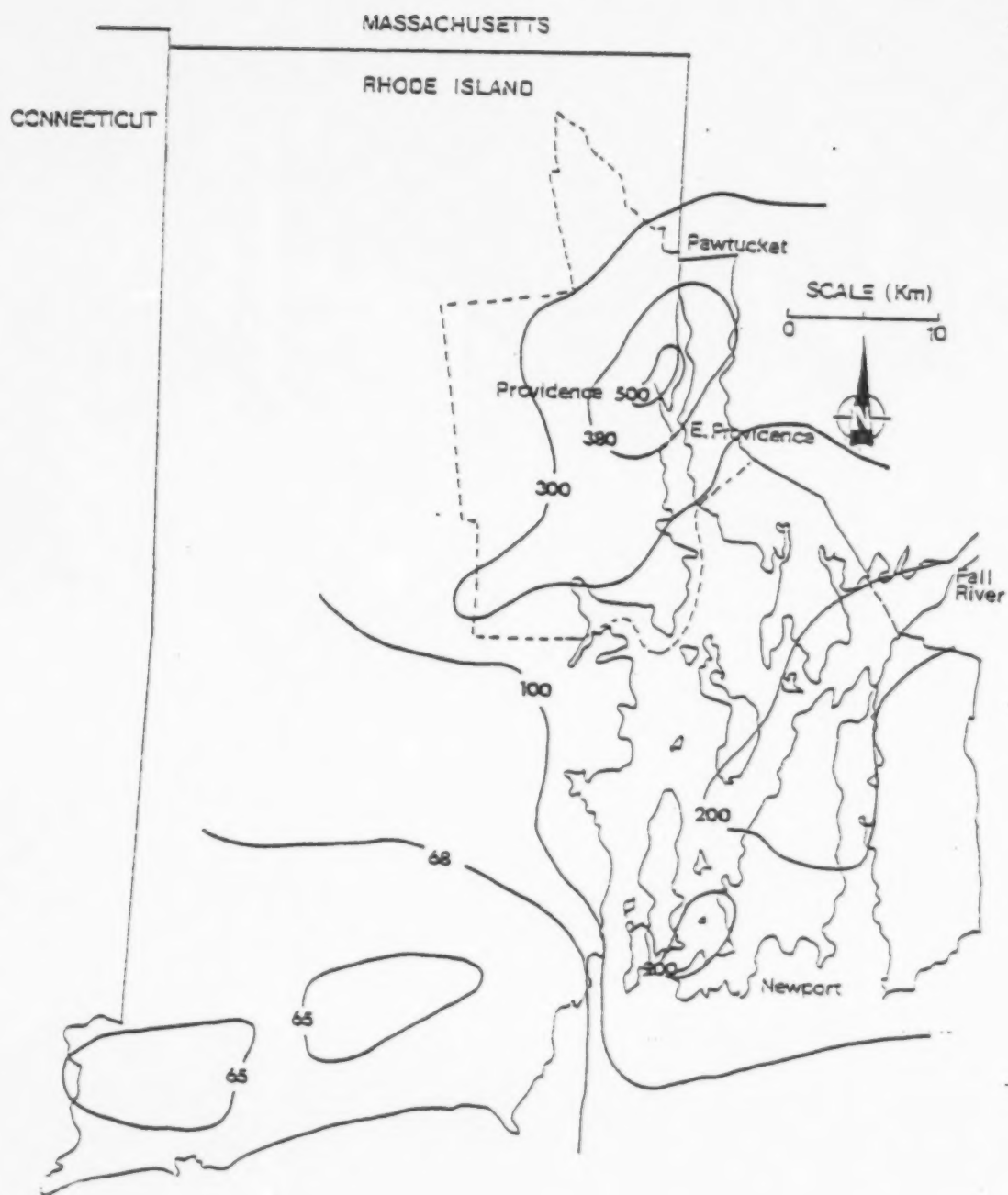


FIGURE 5-11. NON-METROPOLITAN AREA SO₂ ISOPLETH -
24-HOUR NAAQS (SCENARIO 3)

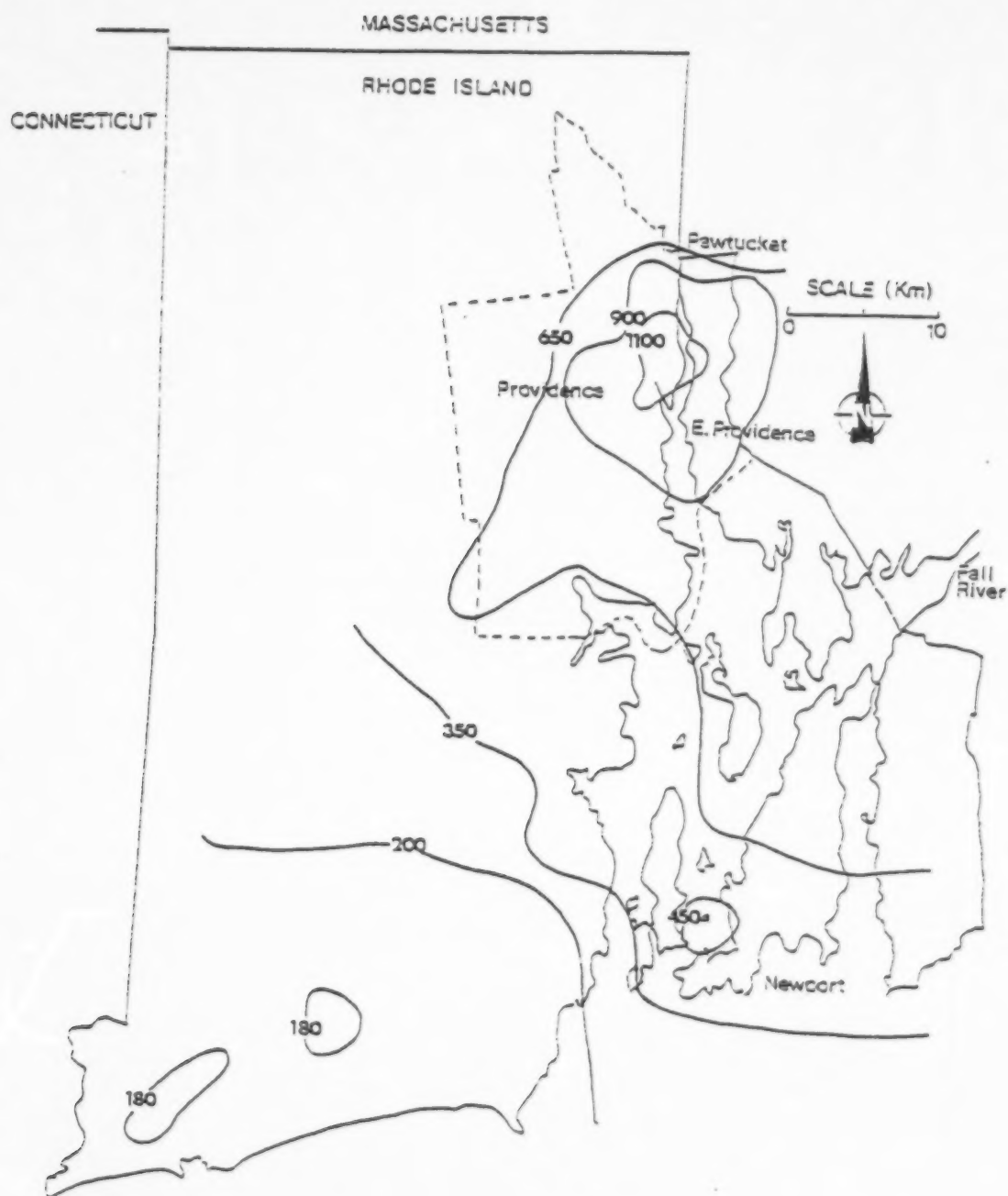


FIGURE 5-12. NON-METROPOLITAN AREA SO₂ ISOPLETH -
3-HOUR NAAQS (SCENARIO 3)

of standard violations. There are no predicted violations in the non-metropolitan study areas. Areas of high concentration in the Newport and S.W. Rhode Island are caused by the local sources, and are pronounced in the PSD diagrams (Figures 5-7 to 5-9). In the NAAQS isopleths, local impacts in Newport and S.W. Rhode Island are mitigated by the impacts of the Massachusetts "background" sources, which contribute heavily to predicted maxima in these areas.

3. Study Area Interactions

The four study areas comprising the state of Rhode Island are generally considered isolated geographic units, although as described previously, the metropolitan area influence on other areas is evaluated. This assumption was tested by placing "long range" receptors in adjacent study areas to measure the maximum impact from one study area to the next. Also, the impacts upon the southeastern Massachusetts area were similarly measured due to its proximity to metropolitan Providence. Table 5-6 is a summary of the maximum impacts occurring between study areas for all scenarios and averaging periods. Note the percentage impacts due to the Providence area do not necessarily correspond to those in Table 5-4 since they did not occur on the "critical" day. These maximum impacts listed in Table 5-6 are summarized in terms of percent of standard in Table 5-7. The following conclusions may be drawn from the data in Table 5-7:

- An increase in fuel sulfur content in Providence will lead to a consumption of approximately 50 percent of the PSD increments for each averaging period in Massachusetts. PSD impacts for the other study areas due to Providence are much lower, ranging from 8-18% for S.W. Rhode Island to 2-7% for the N.W. Rhode Island area.
- SO₂ impacts from Providence fuel-switching relative to NAAQS standards range from 12 percent in N.W. Rhode Island to 44 percent in Massachusetts. The maximum percent standard contribution occurs for the 3-hour averaging period in all study areas.

TABLE 5-6
PROVIDENCE AREA IMPACT ON NON-METROPOLITAN AREAS
(Including Newport - S.W. Rhode Island Interaction)

	Maximum SO ₂ Concentration (ug/m ³)							
	PSD Increment			NAAQS Impact**			Max. % Standard PSD	% Standard NAAQS
	Scen. 1	Scen. 2	Scen. 3	Scen. 1	Scen. 2	Scen. 3		
<u>Prov. - Newport</u>								
Annual	0.6	0.8	1.0	8.0	8.2	8.4	5 %	11 %
24-hour, max.	5.1	6.7	10.6	120	120	120	12 %	33 %
3-hour, max.	21	25	30	489	489	489	6 %	38 %
<u>SW R.I. - Newport +</u>								
Annual	0.4	-	-	0.8	-	-	2 %	1 %
24-hour, max.	2.9	-	-	5.4	-	-	3 %	1 %
3-hour, max.	20	-	-	36	-	-	4 %	3 %
<u>Prov. - SW R.I.</u>								
Annual	1.0	1.3	1.6	6.6	6.9	7.3	8 %	9 %
24-hour, max.	8.2	12.2	16.6	67	68	68	18 %	19 %
3-hour, max.	36	40	44	313	313	313	9 %	24 %
<u>Newport - SW R.I. +</u>								
Annual	-	0.3	-	0.6	-	-	2 %	1 %
24-hour, max.	-	5.9	-	10.9	-	-	6 %	3 %
3-hour, max.	-	31	-	56	-	-	6 %	4 %
<u>Prov. - NW R.I.</u>								
Annual	0.2	0.2	0.3	0.8	0.8	0.9	2 %	1 %
24-hour, max.	3.8	4.8	6.5	20	20	21	7 %	6 %
3-hour, max.	30	32	36	156	156	162	7 %	12 %
<u>Prov. - Mass.</u>								
Annual	4.5	6.9	8.8	16.4	18.8	20.7	44 %	26 %
24-hour, max.	36.3	39.1	46.6	120	120	121	51 %	33 %
3-hour, max.	239	266	284	564	564	567	55 %	44 %
<u>Newport - Mass.*</u>								
Annual	-	1.6	2.1	-	-	-	11 %	-
24-hour, max.	-	7.6	10.6	-	-	-	12 %	-
3-hour, max.	-	36	36	-	-	-	7 %	-

*Incremental impact of non-met. area only (Providence not included). NAAQS impact does not include non-converting sources @ 1.0% S.

* Estimated by impact at the Tiverton monitoring site near R. I. - Mass. state line.

**Does not include background.

TABLE 5-7

MATRIX OF MAXIMUM PERCENTAGE IMPACTS OF FUEL CONVERSION
BY GEOGRAPHICAL AREA (Scenario 3)

Study Area - Averaging Period	Maximum Percentage Impacts (PSD, NAAQS)*				
	Providence	Newport	SW R.I.	NW R.I.	Mass.
Providence - Annual 24-hour 3-hour	- - -	5, 11 % 12, 33 % 6, 38 %	8, 9 % 18, 19 % 9, 24 %	2, 1 % 7, 6 % 7, 12 %	44, 26 % 51, 33 % 55, 44 %
Newport - Annual 24-hour 3-hour	+ + +	- - -	2, 1 % 6, 3 % 6, 4 %	- - -	11, - % 12, - % 7, - %
SW Rhode Island - Annual 24-hour 3-hour	+ + +	2, 1 % 3, 1 % 4, 3 %	- - -	- - -	- - -

+ Impact of non-metropolitan areas on Providence not analyzed but assumed to be less than
Newport - SW Rhode Island interaction due to travel distance involved.

* NAAQS percentage impact does not include background. Applicable standards are
(Annual, 24-hour, 3-hour): 1) PSD - 20.0 $\mu\text{g}/\text{m}^3$, 91 $\mu\text{g}/\text{m}^3$, 512 $\mu\text{g}/\text{m}^3$;
2) NAAQS - 80 $\mu\text{g}/\text{m}^3$, 365 $\mu\text{g}/\text{m}^3$, 1300 $\mu\text{g}/\text{m}^3$.

- Interactions between the Newport-S.W. Rhode Island study areas are relatively small for all averaging periods. Fuel sulfur conversion in the Newport area consumes no more than 6 percent of the PSD increments and 4% of the NAAQS standard in the S.W. R.I. study area. The PSD and NAAQS impacts in Newport from the S.W. R.I. area are at most 4 percent and 3 percent, respectively.
- There is a moderate consumption of the PSD increment in Massachusetts (estimated near the state border) due to fuel-switching in the Newport area, ranging from 7 to 12 percent.
- The impact of fuel conversion in the non-metropolitan areas upon Providence, while not directly estimated, is assumed to be less than the Newport-S.W. Rhode Island interaction due to relative travel distances involved and therefore negligible.

VI. CONCLUSIONS

The conclusions presented here are principally drawn from the data given in Tables 5-3, 5-5, and 5-6, which presented RAM modeling results for all study areas. The discussion is centered on three issues: (1) the feasibility of fuel conversion (to 2.2% sulfur) for entire state, (2) the feasibility of fuel conversion for specific geographic areas, and (3) extent of study area interactions. The first two items comprise the principle results of the study; the latter helps clarify study assumptions and provides supplementary information.

A. REVISION OF SULFUR-IN-FUEL REGULATION

1. Fuel sulfur content revision is not viable in the Providence area for any scenario due to:
 - ° Exceedance of PSD increments and NAAQS standards for the highest estimate for all averaging periods and scenarios, excepting the 3-hour PSD increment and NAAQS standard for Scenario 1 (24-hour standards are the most restrictive in all cases).
 - ° Exceedance of both 24-hour PSD increments and 24-hour NAAQS standards for the highest, second-high estimate. The results show that the "major" sources in Providence have by far the greatest impact upon maximum estimated concentrations. For example, the estimated highest 24-hour PSD increment in Providence for Scenario 1 (major sources) is 231 ug/m³, and only 236 ug/m³ for Scenario 3 (all candidate sources). Therefore the major sources constitute 98 percent of the total maximum estimated concentration for this case.
2. Fuel sulfur content revision is viable in the non-metropolitan areas for all scenarios. (The areas examined are Newport, S.W. Rhode Island and N.W. Rhode Island). This assessment is made from the modeling results for each scenario including the Providence area impact on an hourly basis for that scenario. The source interaction between non-metropolitan areas is not included in these results but is negligible with respect to the standards.

B. STUDY AREA INTERACTION

The four geographic areas comprising the state of Rhode Island in this study are the Metropolitan Providence area, Newport-Jamestown area, S.W. Rhode Island and N.W. Rhode Island. SO₂ impacts relative to PSD increments were also noted for the southeastern portion of Massachusetts (Fall River area). The results presented in Table 5-6 and 5-7 are summarized below:

1. An increase in fuel sulfur content to 2.2% in Metropolitan Providence will lead to a consumption of approximately 50 percent of the PSD increments in Massachusetts for each averaging period. The maximum impacts on Massachusetts were located very near the MA-RI border, east of downtown Providence. PSD impacts for the other study areas due to Providence are much lower, ranging from 8-18% for the S.W. Rhode Island area to 2-7% for the N.W. Rhode Island area.
2. The impact on NAAQS fuel conversion in Metropolitan Providence ranges from 12 percent in N.W. Rhode Island to 44 percent in Massachusetts. The maximum percent standard consumption occurs for the 3-hour averaging period in all study areas.
3. Interactions between the Newport-S.W. Rhode Island study areas are relatively small for all averaging periods. Fuel sulfur conversion in the Newport area consumes no more than 6 percent of the PSD increments and 4% of the NAAQS standard in the S.W. R.I. study area. The PSD and NAAQS impacts in Newport from S.W. R.I. area are at most 4 percent and 3 percent, respectively.
4. There is a moderate consumption of the PSD increment in Massachusetts due to fuel conversion in the Newport area alone, ranging from 7 to 12 percent.

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APPENDIX A
SOURCE INPUT DATA

	<u>Page</u>
1. Rhode Island Candidate Source Emissions Data	A- 1 to A- 6
2. Rhode Island Emission Source Velocity Calculations	A- 7 to A-12
3. Massachusetts Major Source Emissions Data	A-13 to A-16

FACILITY	UTM COORDINATES		BOILER DATA			MAXIMUM FIRING CAPACITY (GPH)	MAXIMUM HEAT INPUT CAPACITY (MMBTU/H)	HOURS OF OPERATION	ANNUAL FUEL USE (GPT)	ACTUAL EMISSIONS (over period)		MAXIMUM EMISSIONS (ant/sec)		COMMIT
	HORIZONTAL	VERTICAL	STACK HT (M)	TEMP (°K)	VELOCITY (MPS)	STAGE DIS. (M)				SO ₂	TSP	SO ₂	TSP	
American Hoechst 189 Southwicks Cincinnati, RI	288.6	4618.6	9.75	563	1.92	0.12	860	8760	2059765 1,395,834	4.65	0.39	17.01	1.41	N/L
American Insulated Wire 36 Freeman St Providence, RI	303.5	4634.6	28.1	477	22.7	2.74	330	5610	859826	3.04	0.25	6.55	0.54	N/L
Artwood, Inc Main St. Cranston, RI	288.2	4622.6	38.1	443	2.07	1.83	102	7800	546834	1.39	0.12	2.02	0.27	N/L
ATC Petroleum 144 Airport Providence	300.2	4631.3	38.1	477	22.0	1.83	120	8760	495852	1.12	0.09	10.4 2.37	0.19	N/L
Bird & Son Inc Dexter, RI	202.3	4634.2	29.87	468	24.16	1.22	630	7056	47311580 6491566 2,549,805	19.28	1.60	12.46	1.03	N/L
Easton Easton Easton	292.0	4611.8	12.19	451	26.42	0.76	900	8760	560236	1.26	0.10	7.32	0.61	N/L
Bradford Lyne Westerly, RI	270.0	4587.3	56.69	423	1.68	3.90	1051	7200	2919827	8.01	0.67	17.8	1.73	N/L
Brown University Lloyd Ave. Providence, RI	300.5	4633.7	18.29	507	7.88	1.22	667	8760	684,601 2053803 6683	4.64	0.38	39.59	3.28	N/L
Clark & Gifford 150 Main St. Cranston, RI	294.5	4626.4	45.72	577	6.86	1.07	300	8760	245,696 164,059 1,041,353	3.72	0.31	27.69	2.29	N/L
Colfax Inc 150 Main St. Cranston, RI	299.9	4636.7	11.2	477	15.8	0.77	300	8760	1150,824 641,748	1.45	0.12	11.87	0.93	N/L
Collyer Insulation Wire 100 Washington Av Lincoln, RI	200.1	4629.7	17.8	521	13.5	1.52	275	9400	579785	1.36	0.11	5.44	0.45	N/L

ACTIVITY	DATA		BOILER DATA		MAXIMUM FIRING CAPACITY (GPH)	MAXIMUM HEAT INPUT CAPACITY (MMBTU/H)	HOURS OF OPERATION	ANNUAL FUEL USE (GAL)	ACTUAL EMISSIONS (lb/sec)		MAXIMUM EMISSIONS (lb/sec)	COMMUNITY
	HORIZONTAL DISTANCE	BACK TANK MT	TEMP. (°K)	STAGE VOL. (MPG)					SO ₂	TSP	SO ₂	TSP
Corning Glass	301.3	46408	36.58	591	27.2	1.22	308 C	45.0+	8760	945,086	6.1	0.49
Central Falls, RI			41.5	491	3.63	2.59	422	62.49		2243226	8.47	0.70
Central Falls, RI			46.72	719	8.6	1.34	101	14.75		1,302,119	2.00	0.17
Central Falls, RI			15.40	423	16.12	3.91	400	60		standby		
Central Falls, RI	295.7	4629.5	15.40	423	23.23	0.72	300	102.2		558,994	13.85	1.15
Central Falls, RI			45.72	423	1.01	1.34	100	15		standby		
Central Falls, RI	300.6	4637.1	30.48	507	20.6	1.22	125	18.25	8760	452,235	2.47	0.21
Central Falls, RI	293.2	4627.6	45.72	423	3.73	1.22	638	92.15	8760	576,212	12.63	1.04
Central Falls, RI	304.8	4639.1	30.48	507	5.49	1.22	296	43.22		695,494	5.11	0.41
Central Falls, RI	211.5	4609.7	10.97	513	3.66	1.22	268	53.73	8400	584,213	7.23	0.20
Central Falls, RI	280.5	4591.4	38.1	465	4.66	1.52	290	42.34		921,956	5.73	0.43
Central Falls, RI	287.2	4603.4	45.72	493	24.7	1.83	205	30.00	7200	1382,934	2.87	0.24
Central Falls, RI			7.01	563	5.43	0.76	82	11.97		460,978	1.96	0.34
Central Falls, RI	298.2	4621.5	7.01	563	4.15	0.76	201	29.35		1382,934	6.93	0.57
Central Falls, RI	296.7	4622.4	13.72	479	13.2	1.22	208	30.37		460,978	4.12	0.34

CITY	NTA COORDINATES		BOILER DATA			MAXIMUM FIRING CAPACITY (GPH)	MAXIMUM HEAT INPUT CAPACITY (MMBTU/H)	HOURS OF OPERATION	ANNUAL FUEL USE (GPD)	ACTUAL EMISSIONS (lbm/sec)		MAXIMUM EMISSIONS (lbm/sec)	
	HORIZONTAL	VERTICAL	STACK HT (M)	STACK TEMP, CHT VEL. DIA. (°K) (MPS) (M)	SO ₂					TSP	SO ₂		
Maline Co Providence, RI	249.8	4631.7	30.98	507	19.75	1.22	230	48.18	6000	691154	2.27	0.19	5.22
Memorial Hospital Providence, RI	202.8	4627.9	22.2	549	4.05	1.22	110	16.06	8760	850633	1.93	0.16	2.18
Paul Buck, RI	300.9	4635.8	35.05	507	1.37	1.22	180	26.28	8760	731783	1.66	0.14	3.57
Winum Hospital Providence, RI	297.1	4630.4	37.91	563	1.2	3.66	500	75	6240	1,396,546	3.48	0.71	15.83
Narragansett Brewery Providence, RI	297.1	4630.4	36.58	423	10.5	1.22	533	80	approx. 6000	2673090	77.62	6.43	79.13
Narragansett Electric Providence, RI	297.1	4632.2	49.0	417	17.14	1.66	7650	1116.9	approx. 5000	23541420	98.13	8.11	213.83
Narragansett Electric Providence, RI	297.1	4632.0	61.24	437	6.31	6.4	7100	1036.6	approx. 5000	16,305,982	1.45	0.13	6.4
Manchester St. Providence, RI	297.1	4631.5	60.96	417	12.19	3.58	3700	540.2	8760	24803242 8,494,286	2.57	0.21	4.54
Newport Hospital Friendship St. Newport, RI	207.5	4596.3	38.1	535	1.07	0.91	(315)	16.00	8760	641985	1.33	0.1	3.96
Providence College Eaton St. Providence, RI	297.6	4635.3	36.58	507	2.44	1.83	229	33.43	8760	1134000	1.06	0.09	7.92
Providence Grazzini West River St. Providence, RI	299.6	4634.5	15.54	423	8.63	0.61	200	29.2	8760	588875	0.37	0.35	0.69
Providence Housing Authority Hartford Av. Providence, RI	295.2	4632.4	32.0	423	3.84	1.68	4.00	16.75	8760	471784	0.37	0.35	0.69

ACTIVITY	NIA COORDINATES		BOILER DATA				MAXIMUM FIRING CAPACITY (GPM)	MAXIMUM HEAT INPUT CAPACITY (MMBTU/H)	ANNUAL HOURS OF OPERATION	ANNUAL FUEL USE (GPM)		ACTUAL EMISSIONS (lbm/sec)		MAXIMUM EMISSIONS (lbm/sec)		COMMENTS
	HORIZONTAL	VERTICAL	FACE TEMP. (°F)	STAGE VELOCITY (ft/sec)	STAGE DIA. (in)	SO ₂				TSP	SO ₂	TSP	SO ₂	TSP		
RI Central Cannon Plant Cannon, RI	293.4	4623.1	45.72	465	8.23	2.13	1877	277	8760	2,051,140	9.29	0.77	19.4	1.61		
RI College Providence, RI	295.8	4635.2	42.67	465	8.23	2.74	1860	279	8568	4,102,284	1.52	0.13	5.04	0.42		
RI Hospital Eddy St Providence, RI	299.7	4634.4	10.31	535	10.06	1.83	266	140	8760	935,350	6.67	0.54	13.61	1.13		
RI Fort Authority Davisville North Kingston, RI	299.2	4626.7	14.33	535	8.55	1.68	256	37.58	8760	674,590	9.41	0.78	15.88	1.26		
Rochambeau Westerly Old River Rd Lincoln, RI	295.2	4648.1	27.43	479	6.1	1.52	120	116.8	8760	415,492	1.11	0.09	2.37	0.2		
St. Joseph's Hospital	295.8	4634.4	27.43	479	18.68	1.22	105	15.33	8760	462,840	1.05	0.09	2.08	0.17		
Falmouth Unit North Providence OLP Unit Providence, RI	298.8	4630.9	42.67	563	7.5	1.85	132	19.27	8760	547,921	1.23	0.1	2.61	0.21		
Slater Dye Works School St Pawtucket, RI	302.8	4636.7	24.36	518	3.2	1.52	200	29.2	4000	553,000	2.75	0.23	3.96	0.33		
National Bottle Co. (formerly Star City Glass) Coventry, RI	285.1	4619.9	10.67	1204	14.02	1.22	300	43.8	8760	78,832 TPY Total glass production 1978	3.86	1.59	5.41	-	5 days for glass production base load fuel cost	
Owens Corning Fibreglass Ashland, RI	298.4	4645.5	17.07	783	19.81	2.13	300	45.8	8760	114,373 (K.C.F.O.)	0.47	0.03	0.98	0.06	5 days (0.9%)	
			18.29	440	1.8	0.35	90	13.14	8760	207,219 (K.C.F.O.)	0.47	0.04	1.81	0.15		

CITY	UTM COORDINATES		BOILER DATA				MAXIMUM FIRING CAPACITY (GPH)	MAXIMUM HEAT INPUT CAPACITY (MMBTU/H)	HOURS OF OPERATION	ANNUAL FUEL USE (GPY)		ACTUAL EMISSIONS (lbm/sec)		MAXIMUM EMISSIONS (lbm/sec)		REMARKS
			BACK TEMP, WT (°K)	TEMP, BTU (°K)	SPACE VEL. (MPH)	SPACE DIA. (IN)						SO ₂	TSP	SO ₂	TSP	
Teknor Apex Pawtucket, RI	304.0	46325	17.98	549	0.56	2.44	270	39.42	8760	446192		1.08	0.09	5.29	0.44	
Teneco Allen's Ave Providence	300.8	4624.9							8760	1074780		2.43	0.2			
United Wire Elmwood Av Cranston, RI	298.3	46266	12.19	457	1.37	0.69	56	8.18	6000	138,345 345,865 484,205		1.64	0.14	4.85	0.4	On
US Navy Base EB 2146 CTR Cranston, RI	305.5	46478	15.24	465	0.72	0.76	50	7.3	7728	standby 1,394,972 1,992,818 4,199,000 1,871,172 910,272		11.50	0.95	58.58	3.2	L
Coddington Cove, Newport	307.2	4599.1	24.08	518	18.29	1.52	550	80.3	7728	446,500 1,443,000		5.11	0.42	21.77	1.8	HA
Melville Portsmouth	309.3	4606.2	23.77	518	18.29	1.52	550	80.3	8760	107,000 219,000		0.48	0.04	11.06	7.28	
Gould Island Newport	304.5	4600.2	24.38	423	18.29	1.52	280	40.88		PLANT SH	UTDO WN					
University of Rhode Island S. Kingstown, RI	288.9	4595.7	31.39	423	12.5	0.76	60	8.76	8450	2432000		5.32	0.47	16.81	1.39	
VA Hospital 1111 Stone Av Providence, RI	297.9	4633.7	31.29	423	12.5	0.76	50	7.3	8760	500519		1.13	0.10	5.54	0.49	new boiler installed 3-1-72
Washburn Wire East Providence RI	303.4	4635.7	31.29	423	12.5	0.76	50	7.3	8400	5500000		12.97	1.08	13.86	1.15	



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
75 Davis Street --204 Cannon Building
Providence, R. I. 02908

4 September 1979

Mr. Michael Geraghty
Staff Scientist
Walden, Division of Abcor, Inc.
850 Main Street
Wilmington, MA 01887

Dear Mike:

In reply to your letter of 21 August 1979, I wish to address the following points regarding the Rhode Island Sulfur-In-Fuel Study.

1. The Division of Air Resources has reviewed all sources subject to the study for stack height GEP. There are no sources built since 31 December 1970 that have stacks over 30 meters high and taller than GEP.
2. The Division of Air Resources verifies that local area/small point sources did not excessively impact on bubblers. A review of the 1976 bubbler data shows that no significant variance exists between sites or at any site on a seasonal basis regarding measured sulfur dioxide concentrations.
3. Two values for each source's exit velocity have been computed. Formulas, described below, were used to calculate velocities rather than to use information as supplied by the source as some results were very questionable. Using the formulas provides consistency in the data base.

For actual or average velocity, 20 percent excess air is used in the computation and flow rate is determined as follows:

$$Q_{\text{Actual}} = \frac{104 \times (1000 \text{ gal/yr}) \times T_S(^{\circ}\text{K})}{\text{hours/yr operation}}$$

where 104 is correction factor, and

$$V_{\text{Actual}}(\text{m/sec}) = \frac{Q_{\text{Actual}}}{1663 D^2}$$

where 1663 = correction factor

D = stack diameter in meters

4 September 1979

For maximum stack velocity, the following assumptions and formulas were used:

$$Q_{\text{Maximum}} = M \times \text{Maximum Rated Capacity} \times T_s$$

$$\text{and } V_{\text{Maximum}} = \frac{Q_{\text{Maximum}}}{1663 D^2}$$

where $M = 0.73$ assuming 30 percent excess air and heat input is greater or equal to 100×10^6 Btu/hr

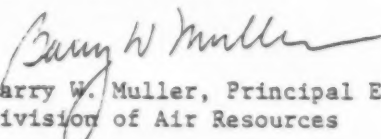
or $M = 0.84$ assuming 50 percent excess air and heat input is less than 100×10^6 Btu/hr.

Maximum Rated Capacity is the design capacity of the boiler.

T_s is the stack temperature.

I believe this letter answers the questions raised in your letter and over the phone. If you need further classification or information, please contact me.

Very truly yours,


Barry W. Muller, Principal Engineer
Division of Air Resources

BWM/cd



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
75 Davis Street --204 Cannon Building
Providence, R. I. 02908

14 August 1979

Mr. Mike Garahty
Walden - Division of Abcor
850 Main Street
Wilmington, MA 01887

Dear Mike:

Enclosed is some additional data for the SO₂ study.
The list includes facility names and associated
maximum flow rates for each facility's exhaust stack.

If you have any further questions concerning this
data, please feel free to call Barry Muller or myself
at 277-2808.

Very truly yours,

BOB KILDUFF

Robert J. Kilduff, Engineer
Division of Air Resources

RJK/cd
Enclosure

$$V_{max} (m/sec) = \frac{Q_{max} (cfm)}{154.5 \sqrt{f+1}}$$

84 < 100

$$Q_{max} = \text{CAPACITY} \times T_3 (\%)$$

Received 8/11

Btu/hr

①

FACILITY	MAXIMUM FLOW RATE (V _{MAX})
	ACTUAL
Am. Hoechst	23.0 m/sec 2.46 13.7 m/sec 3.54
Am. Insul. Wire	1.5 m/sec 0.62
ARKWRIGHT	1.0 m/sec 0.58
ATC PETROLEUM	1.3 m/sec 0.5
BIRD & SON	14.6 m/sec 1.09 8.24 m/sec 7.79
BOSTITCH	44.8 m/sec 3.12
BRADFORD DYE	2.5 m/sec 0.93
BROWN UNIVERSITY	16.8 m/sec 1.66 16.8 m/sec 16.8 m/sec
CIBA Geigy	11.2 m/sec 1.24 14.6 m/sec 1.9
COLFAX	18.2 m/sec 1.84 12.6 m/sec 1.9
COLLYER Insul. Wire	4.5 m/sec .92
CORNING GLASS	9.0 m/sec 2.68 2.3 m/sec 0.68 3.0 m/sec .6
CRAWSTON PRINT WORKS	8.7 m/sec 2.13 12.5 m/sec 3.05 1.5 m/sec .51
ERCO CORP.	3.1 m/sec 1.1
GORMAN (DIV. OF TEXTRON)	10.4 m/sec 0.92
ITT ROYAL ELECTRIC	7.4 m/sec 2.2
ISPER ALUMINUM	9.4 m/sec 1.5 A-10

EFF - 30-30%
EFF 30-30%

RI 20%

KENYON PIECE DYEWORKS

4.3 m/sec. 1.61

LADD CENTER

2.9 m/sec. 1.66

LEESONA CORP.

2.2 m/sec. 1.13

5.9 m/sec. .63

14.7 m/sec. 1.65

32.8 m/sec. SB

LEVITON MFG.

4.9 m/sec. 2.73

MAHINA CO.

8.3 m/sec. 2.45

MEMORIAL HOSPITAL

3.0 m/sec. 2.24

MIRIAM HOSPITAL

4.5 m/sec. 1.78

VARRAGANSETT BREWERY

7.4 m/sec. 6.57

~~11.5~~ ~~10.7~~ m/sec. 3.8

VARRAGANSETT ELECTRIC (SOUTH ST.)

15.3 m/sec. 7.64

VARRAGANSETT ELECTRIC (MANCHES. ST.)

4.9 m/sec. 2.17

8.8 m/sec. 3.88

VIEWPORT HOSPITAL

14.9 m/sec. 2.96

PROVIDENCE COLLEGE

2.6 m/sec. 1.23

PROVIDENCE GRAVURE

16.8 m/sec. 4.78

PROVIDENCE HOUSING AUTHORITY

4.7 m/sec. 0.54

I. CENTRAL POWER PLANT

3.7 m/sec. 1.15

2.2 m/sec. 0.9

I. COLLEGE

15.9 m/sec. 6.69

8.4 m/sec. 0.37

I. HOSPITAL

10.2 m/sec. 4.9

I. PORT AUTHORITY

7.6 m/sec. 4.37

OSHAMBEALL

1.8 m/sec. 0.72

ST. JOSEPH'S HOSPITAL (FATIMA)

2.5 m/sec. 1.06

(PROV) 1.6 m/sec. 1.66

SLATER DYE WORKS
NATIONAL BOTTLING CO.

3.3 m/sec. 1.94
17.9 m/sec. 2.83
3.8 m/sec. 3.32

OWENS CORNING FIBREGLAS

1.5 m/sec. 0.62
26.0 m/sec. 5.3

TEKNOX APEX

1.8 m/sec. 0.29

TEXACO

UNITED WIRE

4.0 m/sec 1.39
13.3 m/sec 4.6
3.0 m/sec 5.3

U.S. NAVY BASE
COASTERS HARBOR

9.3 m/sec. 2.17
10.6 m/sec. 2.45
5.8 m/sec. 1.36
7.8 m/sec. 1.92

COBBINGTON COVE

9.0 m/sec. 1.81
9.0 m/sec. 1.81

MELVILLE

3.8 m/sec. 0.14
3.8 m/sec. 0.14

GOULD ISLAND

3.2 m/sec. ~~0.14~~
2.7 m/sec. ~~0.14~~

UNIVERSITY OF R.I.

4.4 m/sec. 0.53

V.A. HOSPITAL

21.3 m/sec. 3.59

WASHBURN WIRE

9.3 m/sec. 8.49

WOMEN'S & INFANTS HOSPITAL

19.75 0.71

WORCESTER TEXTILE

8.4 m/sec. 3.39

ZAMBARANO HOSPITAL

1.6 m/sec. 0.67



Anthony D. Cortese, Sc. D

Commissioner

PAUL T. ANDERSON
Regional Environmental Engineer

The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

Department of Environmental Quality Engineering

Southeast Region

Lakeville Hospital, Lakeville, Massachusetts 02346

July 17, 1979

Abcor Inc.
Walden Division
850 Main Street
Wilmington, Massachusetts 01887

RE: SMAPCD--Major Source SO₂ Emissions

ATTENTION: Michael J. Geraghty

Gentlemen:

The Department of Environmental Quality Engineering has reviewed your request, dated June 21, 1979, for specific information on major SO₂ emission sources (fossil fuel utilization facilities greater than 100 million B.t.u. per hour) in the Southeastern Massachusetts Air Pollution Control District that are within 30 kilometers of downtown Providence, Rhode Island and has compiled the enclosed data for your use. All information is for 1977.

As you will notice, the various parameters are in units contained in the Department's records. You will have to convert the data into the units your programs require.

Should you have any questions or require additional information, please do not hesitate to contact me.

Very truly yours,

For the Commissioner

Robert E. Donovan, Chief
Air Quality Control Section

D/RJW/cb

Enclosure

cc: Mr. Hagg



Anthony D. Cortese, Sc. D
Commissioner

PAUL T. ANDERSON
Regional Environmental Engineer

The Commonwealth of Massachusetts

Executive Office of Environmental Affairs

Department of Environmental Quality Engineering

Southeast Region

Lakewood Hospital, Lakewood, Massachusetts 02346

August 15, 1979

Walden Division
Abcor, Inc.
850 Main Street
Wilmington, Massachusetts 01887

RE: SMAPCD--Emission Inventory

ATTENTION: Michael Geraghty, Staff Scientist

Gentlemen:

In response to your request dated August 6, 1979, please be advised that calendar year 1978 fuel use data for major sources has not yet been compiled and will not be available in the near future.

In response to your specific questions concerning the calendar year 1977 data previously supplied, please be advised as follows:

1. The exit velocity given should be considered the maximum velocity at full load for units served by that stack.
2. None of the sources listed have physical systems to reduce SO₂ emissions. Rather, SO₂ emissions are controlled by limitation of the maximum sulfur content of fuels that may be burned. The maximum sulfur contents currently in effect for the submitted sources were listed.

Should you have any further questions relative to this matter, please do not hesitate to contact the undersigned.

Very truly yours,

For the Commissioner


Robert E. Donovan, Chief
Air Quality Control Section

RED/lp

cc: Mr. Hagg

COORDINATES	STACK NO.	STACK HEIGHT (FT.)	STACK DIAM. (FT.)	STACK EXIT TEMP. (F°)	EXIT VELOCITY (FT./SEC.)	MAXIMUM FUEL RATE (GAL./HR.)	1977 FUEL USE (GAL.)	FUEL TYPE	FUEL SO ₂ CONTENT (%)
			(m)	(m)	Max. before	$Q_{max} (gal.)$	$Q_{act} (gal.)$		
321.5	1	40	2.3	375	32.4	161	163182	#6	1.0
4616.5	2	40	2.3	375	31.5	161	163182	#6	1.0
	3	40	2.3	375	33.6	161	163182	#6	1.0
	4	40	2.3	375	36.0	268	22428	#6	1.0
321.3	1	167	10.0	400	20.0	620	1438866	#6	1.0
4617.6									
319.1	1	132	8.5	450	2.0	405	400000	#6	1.0
4658.2	2	25	2.8	400	4.5	64	40000	#2	0.3
						30	17500	#2	0.3
310.9	1	80	5.0	450	10.0	319	75570	#6	1.0
4645.6	2	75	3.5	416	17.6	1046	2718020	#6	1.0
323.9	1	75	3.5	475	31.3	487	577122	#6	1.0
4635.5	2	78	3.5	475	22.2	230	0	#6	1.0
317.1	1	73	5.0	500	58.0	720	4834343	#6	1.0
4656.5									
325.2	9	185	8.0	330	61.0	6919	1305000	#6	1.0
4636.8	8	185	8.1	275	38.0	2000	3696000	#2	0.3
	8A	65	3.0	350	18.0	2662	4964860	#6	2.2
						326	854406	#6	2.2
320.3	5	250	7.0	355	18.6	2088	651798	#6	1.0
4638.4	6	116	4.5	350	57.0	1200	3118290	#6	1.0
	7	250	10.0	250	18.3	1899	333144	#6	1.0

COORDINATES	NO.	HEIGHT (FT.)	DIAM. (FT.)	EXIT TEMP. (F°)	(FT./SEC.)	RATE (GAL./HR.)	1977 FUEL USE (GAL.)	FUEL TYPE	FUEL SO ₂ CONTENT (%)
321.5	1	282	1.4	360	26.4	4798	806767	#6	1.0
4622.6	2	282	1.4	355	43.1	10682	1296302	#6	1.0
	3	282	1.1	310	39.7	7004	3106467	#6	2.2
	4	332	1.1	300	50.9	7785	45414941	#6	2.2
	U-1	45	13.0	835	120.0	2000	98911	#2	0.3
	J-2	45	13.0	835	120.0	2000	98911	#2	0.3
317.4	1	350	14.5	260	71.0	14750	96295080	#6	2.2
4619.4	2	350	14.5	260	71.0	14750	365806	#2	0.3
	3	350	19.5	235	89.0	35000	112809354	#6	2.2
	4	500	18.5	345	104.0	33000	354933	#2	0.3
	5	20	2.7	700	60.0	207	187048600	#6	2.2
	6	20	2.7	700	60.0	207	703214	#2	0.3
	7	20	2.7	700	60.0	207	97887300	#6	2.2
	8	20	2.7	700	60.0	207	269513	#2	0.3
							53478	#2	0.3
							62925	#2	0.3
							61684	#2	0.3
							52358	#2	0.3
325.3	1	200	9	275	8.4	714	995248	#6	1.0
1643.2									

APPENDIX B
BASELINE CASE INPUT AND RESULTS

	<u>Page</u>
1. RAM Summary of Baseline Case Input	B-1 to B-5
2. AQSTAT Summary of Baseline Case Results	B-6 to B-9

K.I. FUEL SULFUR STUDY : PROVIDENCE BASELINE CASE (IX SULFUR)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCGR, INC., 9/10/79
 SFC MET DATA: PROVIDENCE 74 : UPPER AIR: JFK AIRPORT 74

THIS IS THE NORMAL URBAN VERSION(78124) OF RAM FOR APPLICATION TO ONE OR SEVERAL DAYS DATA.

OPTION	OPTION LIST	* OPTION SPECIFICATION : 0= IGNORE OPTION 1= USE OPTION
1	POINT SOURCE DATA	1
2	AREA SOURCE DATA	0
3	PERMANENT RECEPTORS	1
4	SIGNIFICANT POINT RECEPTORS	0
5	SIGNIFICANT AREA RECEPTORS	0
6	HONEYCOMB RECEPTORS	0
7	HOURLY OUTPUT	0
8	PARTIAL CONC. WRITTEN TO DISK/TAPE	0
9	PRINT ONLY SUMMARY HOURLY OUTPUT	0
10	PUNCH CARDS FOR CONTOURS	0
11	READ MET DATA FROM CARDS	0
12	SPECIFY SIGNIFICANT SOURCE NUMBERS	0
13	READ HOURLY EMISSIONS	0

IHOUT= 1 (1=HOURLY CONC. OUTPUT, +=365 DAYS, -=LEAP YEAR)
 GENERAL INFORMATION FROM RAMQ

UNITS - THERE ARE 1.000000 USER UNITS(INPUT UNITS) PER SMALLEST AREA SOURCE SQUARE SIDE LENGT
 CONONE - THERE ARE 1.000000 KILOMETERS PER USER UNIT
 CONTWO - IT IS CALCULATED THAT THERE ARE 1.000000 KILOMETERS PER SMALLEST AREA SOURCE SQUARE
 THIS RUN IS FOR S02 SINCE IPOL= 3

GENERAL INPUT DATA

NUMBER OF PERIODS TO BE SIMULATED(NPER)= 365
 AVERAGING TIME IN HOURS FOR EACH PERIOD(NAVG)= 24
 STARTING DATE(1DATE(2), 1DATE(1), 1HSTRT): JULIAN DAY 1. YEAR 1974 HOUR= 1
 RECEPTOR HEIGHT FOR ALL RECEPTORS(Z) 0.0 METERS
 ASSUMED POLLUTANT HALF-LIFE(HAFL) 10800.00 SECONDS
 SURFACE MET DATA FROM STATION(1SFCD) 14765. YEAR(1SFCYR) 1974
 MIXING HEIGHT DATA FROM STATION(IMXD) 94789. YEAR(IMXYR) 1974

NOT FULL SOURCE STUDY. PROVIDENCE BASELINE CASE (1/4 SOURCE)
MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCOR, INC., 9/11/79
SFC NET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74

POINT SOURCE INFORMATION

EMISSION INFORMATION FOR 74 (NPT) POINT SOURCES HAS BEEN DETERMINED BY RAMQ
SIGNIFICANT POINT SOURCES (INSIGP) ARE TO BE USED FOR THIS RUN
THE ORDER OF SIGNIFICANCE (IMPS) FOR 25 OR LESS POINT SOURCES DETERMINED BY RAMQ IS LISTED BY POINT
71

SOURCE	EAST COORD (USER)	NORTH COORD UNITS)	SO2(G/SEC) EMISSIONS	POINT SOURCE LISTING			STACK TEMP(K)	STACK DIAM(M)	STACK VEL(M/SEC)
				PART(G/SEC) EMISSIONS	STACK HT(M)	STACK TEMP(K)			
1 AM HOECH	288.60	4618.80	2.79	3.0	9.75	563.00	1.16	2.46	
2 AM HOECH	288.60	4618.80	1.86	3.0	38.10	563.00	1.22	3.34	
3 AM INSL	303.50	4639.60	3.04	3.0	38.10	477.00	2.74	3.62	
4 ARKWRIGH	288.30	4622.60	1.39	3.0	38.10	443.00	1.63	0.58	
5 ATC PETR	300.20	4631.30	1.12	3.0	38.10	477.00	1.63	0.58	
6 BIRD AND	303.30	4634.20	12.15	3.0	29.87	468.00	1.22	12.19	
7 BIRD AND	303.30	4634.20	7.13	3.0	20.21	513.00	1.22	12.19	
8 BOSTICH	292.00	4611.80	1.26	3.0	12.19	451.00	0.76	3.12	
9 BROWN UN	300.50	4633.70	4.65	3.0	18.29	507.00	1.22	1.66	
10 CIBA-GEI	299.50	4626.40	0.78	3.0	45.72	577.00	1.07	1.66	
11 CIBA-GEI	299.50	4626.40	2.94	3.0	45.72	583.00	1.07	1.24	
12 COLFAX	299.90	4636.70	0.73	3.0	19.20	477.00	0.77	1.84	
13 COLFAX	299.90	4636.70	0.73	3.0	16.76	477.00	0.96	1.19	
14 COLLYER	300.10	4639.70	1.36	3.0	12.80	521.00	0.96	1.19	
15 CORNING	301.80	4640.80	2.29	3.0	36.58	591.00	1.22	0.98	
16 CORNING	301.80	4640.80	3.15	3.0	41.50	491.00	2.59	2.68	
17 CRNSTN P	295.30	4629.30	1.32	3.0	15.40	423.00	0.91	2.13	
18 CRNSTN P	295.70	4629.30	1.32	3.0	30.48	507.00	0.70	3.05	
19 ERCO	300.60	4637.10	1.93	3.0	10.67	1204.00	1.22	1.10	
20 NATL BOT	285.10	4619.40	1.93	3.0	17.07	783.00	1.22	2.83	
21 NATL BOT	285.10	4619.40	1.93	3.0	17.07	783.00	2.13	3.32	
22 GORHAM	298.20	4629.60	1.30	3.0	45.72	423.00	1.38	0.92	
23 ITT ROYL	304.80	4639.40	2.07	3.0	22.86	501.00	1.22	2.20	
24 LEESONA	298.20	4621.50	0.25	3.0	7.31	563.00	0.76	0.63	
25 LEESONA	298.20	4621.50	0.53	3.0	7.31	563.00	0.76	0.63	
26 LEVITON	296.70	4622.40	2.68	3.0	13.72	479.00	0.76	1.65	
27 MALINA	299.80	4631.70	2.27	3.0	30.48	507.00	1.22	2.73	
28 MEMRL HO	302.80	4637.90	1.93	3.0	22.86	549.00	1.22	2.45	
29 MIRIAM H	300.90	4635.80	1.66	3.0	35.05	507.00	1.22	2.24	
30 NARGNST	297.10	4630.40	4.24	3.0	57.91	563.00	1.22	1.78	
31 NARGNST	297.10	4630.40	4.24	3.0	36.58	423.00	1.22	0.57	
32 NARG ELE	300.20	4632.00	77.62	3.0	99.00	417.00	1.22	3.80	
33 NARG ELE	300.30	4632.00	64.51	3.0	99.00	417.00	3.60	7.64	
34 NARG ELE	301.20	4631.90	3.62	3.0	63.96	417.00	6.40	2.17	
35 OW CORN	298.40	4645.30	0.47	3.0	18.29	440.00	3.38	3.88	
36 PROV COL	297.60	4635.30	2.57	3.0	36.58	507.00	0.35	5.30	
37 PROV GRA	299.60	4634.50	1.33	3.0	15.54	423.00	1.83	1.23	
38 PROV HSG	295.20	4632.40	1.06	3.0	32.00	451.00	0.61	4.78	
39 RI CNTRL	293.40	4623.90	4.65	3.0	45.72	465.00	1.08	0.54	
40 RI CNTRL	293.40	4623.90	4.65	3.0	42.67	465.00	2.13	1.50	
41 RI COLLE	295.80	4635.20	0.76	3.0	13.97	535.00	2.74	1.90	
42 RI COLLE	295.80	4635.20	0.76	3.0	14.33	535.00	1.38	0.37	
43 RI HOSPT	299.70	4631.40	6.67	3.0	45.72	538.00	1.90	4.50	
44 ROCHAMBE	295.20	4648.10	1.11	3.0	27.43	479.00	1.52	4.72	

45	ST	JO	HO	295.80	4636.40	1.05	0.0	27.43	479.00	1.22	1.06
46	ST	JO	HO	298.80	4630.90	1.23	0.0	42.67	563.00	1.63	0.66
47	SLATER	D		302.80	4636.70	2.73	0.0	24.38	518.00	1.52	1.94
48	TEKNOR	A		304.00	4639.50	1.08	0.0	17.98	549.00	2.44	0.29
49	TEXACO			300.80	4629.90	2.43	0.0	25.91	477.00	1.63	2.18
50	UNITED	W		298.30	4626.60	0.47	0.0	12.19	457.00	0.69	1.39
51	UNITED	W		298.30	4626.60	1.17	0.0	12.19	457.00	0.60	4.66
52	VA HOSPI			297.90	4633.70	1.13	0.0	12.80	507.00	0.71	3.59
53	WASHBURN			303.40	4635.70	12.97	0.0	19.81	479.00	1.52	8.49
54	WOM 6 IN			297.80	4637.50	1.08	0.0	30.48	479.00	1.52	0.71
55	WORCSTR			293.30	4637.50	1.85	0.0	21.34	479.00	0.91	3.39
56	KAISER	A		321.50	4616.50	1.11	0.0	12.19	464.00	0.70	1.14
57				321.30	4617.60	3.27	0.0	50.90	477.00	3.65	1.61
58				319.10	4658.20	0.93	0.0	40.23	505.00	2.59	0.07
59				310.90	4645.60	6.18	0.0	22.86	486.00	1.07	1.59
60				323.90	4635.50	1.31	0.0	22.86	519.00	1.07	1.29
61				317.10	4656.50	11.00	0.0	22.25	533.00	1.52	13.55
62				325.20	4636.80	5.22	0.0	56.39	439.00	2.44	0.65
63				325.20	4636.80	24.86	0.0	56.39	408.00	2.47	2.47
64				325.20	4636.80	4.27	0.0	19.81	450.00	0.91	1.64
65				320.30	4638.40	1.48	0.0	76.20	452.00	2.13	0.20
66				320.30	4638.40	7.10	0.0	35.36	450.00	1.37	5.16
67	MONTAUP			320.30	4638.40	0.76	0.0	76.20	394.00	3.65	0.11
68	MONTAUP			321.50	4622.60	4.79	0.0	85.95	455.00	5.18	0.17
69	MONTAUP			321.50	4622.60	15.55	0.0	85.95	427.00	3.96	0.01
70	MONTAUP			321.50	4622.60	227.35	0.0	101.19	422.00	3.96	10.39
71	BRAYTON			317.40	4619.40	1047.20	0.0	106.68	400.00	4.42	17.67
72	BRAYTON			317.40	4619.40	936.75	0.0	106.68	386.00	5.94	16.70
73	BRAYTON			317.40	4619.40	490.18	0.0	152.40	447.00	5.64	1.83
74				325.30	4643.20	2.26	0.0	60.96	408.00	2.74	0.41

PROVIDENCE BASELINE CASE (1% SULFUR)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCOR, INC., 9/10/79
 SFC NET DATA: PROVIDENCE 74 : UPPER AIR: JFK AIRPORT 74

INPUT RECEPTORS

RECEPTOR	IDENTIFICATION	EAST COORD (USER UNITS)	NORTH COORD (USER UNITS)
1	DYER ST.	300.00	4632.50
2	HEALTH	299.50	4633.80

R.I. FUEL SULFUR STUDY : PROVIDENCE BASELINE CASE (1% SULFUR)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCOR, INC., 9/13/79
 SFC MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74

INPUT MET DATA HOUR	THETA (DEG)	74/ SPEED (M/S)	MIXING HEIGHT (M)	TEMP (DEG-K)	STABILITY CLASS
1	10.00	3.60	207.00	274.20	4
2	22.00	4.11	207.00	274.20	4
3	21.00	3.60	207.00	274.80	4
4	19.00	2.57	207.00	275.30	4
5	356.00	1.54	207.00	275.90	4
6	352.00	7.20	207.00	275.90	4
7	18.00	3.08	207.00	275.90	4
8	10.00	2.57	207.00	275.90	4
9	358.00	3.60	207.00	275.30	4
10	360.00	3.60	207.00	275.90	4
11	344.00	4.11	207.00	275.90	4
12	343.00	4.11	207.00	275.30	4
13	355.00	3.60	207.00	275.90	4
14	37.00	2.55	207.00	276.40	4
15	92.00	2.05	207.00	277.50	4
16	320.00	2.05	207.00	278.10	4
17	306.00	6.17	233.31	278.10	4
18	320.00	5.14	451.79	277.00	5
19	305.00	5.65	312.90	277.00	4
20	309.00	7.71	352.69	276.40	4
21	314.00	7.20	392.49	275.30	4
22	312.00	6.68	432.28	274.80	4
23	298.00	8.23	472.08	274.20	4
24	315.00	7.71	511.87	273.70	4

RESULTANT MET CONDITIONS

WIND DIRECTION= 333.81
 AVERAGE WIND SPEED= 4.50
 WIND PERSISTENCE= 0.858

RESULTANT WIND SPEED= 3.86
 AVERAGE TEMPE= 275.79
 MODAL STABILITY= 4

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE BASELINE CASE (9/11/79)

TABLE

SEQUENTIAL AVERAGES
BASELINE SO₂ PREDICTIONS (1X S)
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
DYER ST. HEALTH DEPT.	101.6 60.9	740617 740126	24 24	100.4 54.9	740531 740531	24 24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 101.6 MICROGRAMS PER CUBIC METER, ON 740617 AT HOUR 24 FOR
SULFUR DIOXIDE

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 100.4 MICROGRAMS PER CUBIC METER, ON 740531 AT HOUR 24 FOR
SULFUR DIOXIDE

WALDEN DIV. OF AGCOR, INC.
PROVIDENCE BASELINE CASE (9/11/79)

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
BASELINE SO₂ PREDICTIONS (1X 5)
SULFUR DIOXIDE PER CUBIC METER
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	-99%	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD-DEV.		GEOMETRIC / MEAN STD-DEV.		MAXIMUM VALUE
			5.	10.	20.	40.	60.	80.	100.	150.	200.						

DYER ST.
HEALTH DEPT.

100.0
100.0

95.9
97.5

66.0
55.6

44.4
36.2

31.0
16.7

15.3
2.5

6.5
0.3

1.9
0.0

0.5
0.0

0.0
0.0

0.0
0.0

17.9
10.3

21.3
10.7

8.8
6.3

3.6
2.8

101.6
60.9

1 OF 1

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE BASELINE CASE (9/11/79)

TABLE

SEQUENTIAL AVERAGES
BASELINE SO₂ PREDICTIONS (12 S)
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
DYER ST. HEALTH DEPT.	288.3 137.8	741104 741031	21 6	242.6 135.0	740704 741007	12 9

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 288.3 MICROGRAMS PER CUBIC METER, ON 741104 AT HOUR 21 FOR
SULFUR DIOXIDE

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 242.6 MICROGRAMS PER CUBIC METER, ON 740704 AT HOUR 12 FOR
SULFUR DIOXIDE

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE BASELINE CASE (9/11/79)

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
BASELINE SO₂ PREDICTIONS (1X 5)
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	-999.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD.DEV.	GEOMETRIC MEAN STD.DEV.	MAXIMUM VALUE	
		1.	5.	10.	20.	40.	60.	80.	100.	150.	200.				
DYER ST. HEALTH DEPT.	100.0	79.7	45.0	20.8	17.8	12.5	9.6	7.3	5.4	2.2	0.4	17.9	36.4	N/A	208.3
	100.0	80.9	37.7	22.6	14.0	7.8	3.7	1.5	0.6	0.0	0.0	10.3	13.2	N/A	137.8

APPENDIX C
MODEL INPUT AND OUTPUT

	<u>Page</u>
1. RAM Input for Providence, Newport, S.W. Rhode Island	C- 1 to C- 20
2. CRSTER Input for N.W. Rhode Island	C-21 to C- 26
3. AQSTAT Summary of RAM Output for Providence, Newport, and S.W. Rhode Island	C-27 to C-164

R.I. FUEL SULFUR STUDY : PROVIDENCE AREA, MAJOR SOURCES (2.2% S.)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCOR, INC., 9/27/79
 SFC MET DATA: PROVIDENCE 74 : UPPER AIR: JFK AIRPORT 74

THIS IS THE NORMAL URBAN VERSION(7H124) OF RAM FOR APPLICATION TO ONE OR SEVERAL DAYS DATA.

OPTION OPTION LIST OPTION SPECIFICATION : 0= IGNORE OPTION
 1= USE OPTION

1	POINT SOURCE DATA	1
2	AREA SOURCE DATA	0
3	PERMANENT RECEPTORS	1
4	SIGNIFICANT POINT RECEPTORS	0
5	SIGNIFICANT AREA RECEPTORS	0
6	HONEYCOMB RECEPTORS	0
7	HOURLY OUTPUT	0
8	PARTIAL CONC. WRITTEN TO DISK/TAPE	1
9	PRINT ONLY SUMMARY HOURLY OUTPUT	0
10	PUNCH CARDS FOR CONTOURS	0
11	READ MET DATA FROM CARDS	0
12	SPECIFY SIGNIFICANT SOURCE NUMBERS	0
13	READ HOURLY EMISSIONS	0

IHOUT= 1 (1=HOURLY CONC. OUTPUT, +=365 DAYS, -=LEAP YEAR)
 GENERAL INFORMATION FROM RAMQ

UNITS - THERE ARE 1.0000000 USER UNITS(INPUT UNITS) PER SMALLEST AREA SOURCE SQUARE SIDE LENGTH (INTER)
 CONONE - THERE ARE 1.0000000 KILOMETERS PER USER UNIT
 CONTWO - IT IS CALCULATED THAT THERE ARE 1.0000000 KILOMETERS PER SMALLEST AREA SOURCE SQUARE SIDE LENGTH
 THIS RUN IS FOR SO2 SINCE IPOL= 3

C-1

GENERAL INPUT DATA

NUMBER OF PERIODS TO BE SIMULATED(MPER)= 365
 AVERAGING TIME IN HOURS FOR EACH PERIOD(NAVG)= 24
 STARTING DATE(IDATE(2)), IDATE(1), IHSTRT): JULIAN DAY 1, YEAR 1974 HOUR= 1
 RECEPTOR HEIGHT FOR ALL RECEPTORS(Z) 0.0 METERS
 ASSUMED POLLUTANT HALF-LIFE(HAFL) 10800.00 SECONDS
 SURFACE MET DATA FROM STATION(I SFCD) 14765, YEAR(1 SFCD) 1974
 MIXING HEIGHT DATA FROM STATION(IMXD) 94789, YEAR(IMXD) 1974

Providence-Major

FUEL SULFUR STUDY : PROVIDENCE AREA; MAJOR SOURCES (2.2% S.)
 CHAFI J. GERAGHTY, WALDEN DIV. OF ABCOR, INC., 9/27/79
 AFC MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74

POINT SOURCE INFORMATION

EMISSION INFORMATION FOR 10 (NPT) POINT SOURCES HAS BEEN DETERMINED BY RAMQ
 0 SIGNIFICANT POINT SOURCES(NSIGP) ARE TO BE USED FOR THIS RUN

THE ORDER OF SIGNIFICANCE(IMPS) FOR 25 OR LESS POINT SOURCES DETERMINED BY RAMQ IS LISTED BY POINT SOURCE

SOURCE	POINT SOURCE LISTING									
	EAST COORD (USER)	NORTH COORD UNITS)	SO2(G/SEC) EMISSIONS	PART(G/SEC) EMISSIONS	STACK HT(M)	STACK TEMP(K)	STACK DIAM(M)	STACK VEL(M/SEC)		
1 AM MOECH	288.60	4618.80	37.42	0.0	9.75	563.00	1.16	23.00		
2 HOSTICH	292.00	4611.80	39.16	0.0	12.19	451.00	0.76	44.80		
3 CIBA-GEI	299.50	4626.40	47.87	0.0	45.72	583.00	1.68	14.80		
4 NARG ELE	300.20	4632.20	174.10	0.0	99.06	417.00	3.66	15.30		
5 NARG ELE	300.30	4632.00	309.25	0.0	61.26	437.00	6.40	4.90		
6 NARG ELE	300.20	4631.90	161.17	0.0	60.96	417.00	3.38	8.80		
7 RI CNTRL	293.40	4623.90	80.45	0.0	45.72	465.00	2.13	3.70		
8 RI CNTRL	293.40	4623.90	81.03	0.0	42.67	465.00	2.74	2.20		
9 RI HOSPI	299.70	4631.40	29.94	0.0	45.72	538.00	1.52	10.20		
10 WASHBRN	303.40	4635.70	30.49	0.0	19.81	479.00	1.52	9.30		

R.I. FUEL SULFUR STUDY : PROVIDENCE AREA, MAJOR SOURCES (2.2% S.)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCOR, INC. 9/27/79
 SFC MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74

INPUT RECEPTORS

RECEPTOR	IDENTIFICATION	EAST COORD (USER UNITS)	NORTH COORD (USER UNITS)
1	CD1	295.20	4650.30
2	CD2	297.40	4648.10
3	CD3	295.20	4645.90
4	CD4	298.40	4646.90
5	CD5	300.00	4645.30
6	CD6	298.40	4643.70
7	CD7	301.80	4643.70
8	CD8	303.50	4642.00
9	CD9	304.00	4641.30
10	CD10	304.70	4640.80
11	CD11	306.80	4639.40
12	CD12	305.80	4639.60
13	CD13	302.80	4639.40
14	CD14	301.20	4639.70
15	CD15	300.10	4640.80
16	CD16	300.10	4638.50
17	CD17	304.80	4637.90
18	CD18	303.60	4637.10
19	CD19	304.20	4637.70
20	CD20	305.40	4636.30
21	CD21	307.00	4632.20
22	CD22	306.20	4634.20
23	CD23	304.50	4635.80
24	CD24	302.80	4636.00
25	CD25	301.50	4636.70
26	CD26	299.60	4636.00
27	CD27	297.70	4637.30
28	CD28	295.10	4638.30
29	CD29	293.30	4639.50
30	CD30	293.30	4635.50
31	CD31	295.80	4636.50
32	CD32	297.10	4635.20
33	CD33	296.50	4634.30
34	CD34	297.40	4633.90
35	CD35	297.40	4632.80
36	CD36	297.90	4634.80
37	CD37	298.80	4634.50
38	CD38	299.00	4633.60
39	CD39	299.60	4633.00
40	CD40	300.00	4633.80
41	CD41	300.70	4634.00
42	CD42	299.70	4635.30
43	CD43	301.10	4634.50
44	CD44	302.50	4634.30
45	CD45	303.40	4633.70
46	CD46	302.30	4633.70
47	CD47	300.30	4632.40
48	CD48	300.60	4631.90
49	CD49	302.40	4631.40
50	CD50	302.80	4629.70
51	CD51	303.10	4626.00

CD54	299.80	4628.90
CD55	300.70	4627.30
CD56	298.20	4626.70
CD57	298.50	4625.60
CD58	297.10	4626.90
CD59	295.70	4627.90
CD60	297.10	4629.30
CD61	296.30	4630.50
CD62	298.20	4620.00
CD63	299.70	4621.50
CD64	297.80	4623.10
CD65	296.70	4621.20
CD66	296.30	4623.30
CD67	293.40	4621.00
CD68	293.40	4621.80
CD69	288.30	4625.10
CD70	290.80	4622.60
CD71	288.30	4620.10
CD72	288.60	4619.60
CD73	289.40	4618.80
CD74	288.60	4618.00
CD75	285.10	4617.80
CD76	286.70	4619.40
CD77	285.10	4621.00
CD78	292.00	4612.90
CD79	293.10	4611.80
CD80	292.00	4610.70
CD81	310.50	4632.00
GR1	314.60	4631.90
GR2	310.50	4640.00
GR3	314.60	4640.00
GR4	308.00	4646.60
GR5	312.00	4650.60
GR6	292.60	4648.00
GR7	290.60	4633.30
GR8	295.30	4642.00
GR9	298.00	4642.00
GR10	298.00	4639.30
GR11	290.60	4637.30
GR12	292.60	4632.00
GR13	292.60	4628.60
GR14	300.60	4619.30
GR15	304.60	4625.30
GR16	304.60	4628.60
GR17	305.30	4632.60
GR18	305.30	4630.60
GR19	270.20	4653.60
LR1	279.60	4589.20
LR2	283.50	4600.20
LR3	299.30	4603.40
LR4	310.30	4604.20
LR5	308.00	4593.50
LR6	300.00	4632.50
DYER ST D	300.50	4632.80
HEALTH	301.90	4638.70
PAWTUCKT	302.30	4638.90
CITY HILL	298.70	4630.90
ST JO'S	304.00	4634.70
WILSON		

Providence - Major

113 I
114 I

JR HIGH
CRANS PD

303.00
294.50

4632.20
4628.40

C-5

Providence - Major

ATTACHED J. G. KAGHITY, WALDEN DIV. OF ABCUK, INC. 9/21/74
SFC. MET DATA: PROVIDENCE 74 : UPPER AIR: JFK AIRPORT 74

THIS IS THE NORMAL URBAN VERSION(78124) OF RAM FOR APPLICATION TO ONE OR SEVERAL DAYS DATA.

OPTION OPTION LIST OPTION SPECIFICATION : 0 = IGNORE OPTION
1 = USE OPTION

1	POINT SOURCE DATA	1
2	AREA SOURCE DATA	0
3	PERMANENT RECEPTORS	1
4	SIGNIFICANT POINT RECEPTORS	0
5	SIGNIFICANT AREA RECEPTORS	0
6	HONEYCOMB RECEPTORS	0
7	HOURLY OUTPUT	0
8	PARTIAL CONC. WRITTEN TO DISK/TAPE	0
9	PRINT ONLY SUMMARY HOURLY OUTPUT	0
10	PUNCH CARDS FOR CONTOURS	0
11	READ MET DATA FROM CARDS	0
12	SPECIFY SIGNIFICANT SOURCE NUMBERS	0
13	READ HOURLY EMISSIONS	0

IHOUT= 1 (1=HOURLY CONC. OUTPUT, +=365 DAYS, -=LEAP YEAR)
GENERAL INFORMATION FROM RAMQ

UNITS-- THERE ARE 1.000000 USER UNITS(INPUT UNITS) PER SMALLEST AREA SOURCE SQUARE SIDE LENGTH (IN
CONONE - THERE ARE 1.000000 KILOMETERS PER USER UNIT
CONTO - IT IS CALCULATED THAT THERE ARE 1.000000 KILOMETERS PER SMALLEST AREA SOURCE SQUARE SIDE
THIS RUN IS FOR SO2 SINCE IPCL= 3

GENERAL INPUT DATA

NUMBER OF PERIODS TO BE SIMULATED(NPER)= 365
AVERAGING TIME IN HOURS FOR EACH PERIOD(NAVG)= 24
STARTING DATE(IDATE(2), IDATE(1), IHSTRT): JULIAN DAY 1, YEAR 1974 HOUR= 1
RECEPTOR HEIGHT FOR ALL RECEPTORS(Z) 0.0 METERS
ASSUMED POLLUTANT HALF-LIFE(HAFL) 10800.00 SECONDS
SURFACE MET DATA FROM STATION(IISFCD) 14765, YEAR(IISFCYR) 1974
MIXING HEIGHT DATA FROM STATION(IMXD) 94789, YEAR(IMXYR) 1974

Providence - Medium

R.I. FUEL SULFUR STUDY : PROVIDENCE AREA, MEDIUM SOURCES (2.2% S.)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF ARCOR, INC. 9/27/79
 SFC MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74

POINT SOURCE INFORMATION

EMISSION INFORMATION FOR 12 (NPT) POINT SOURCES HAS BEEN DETERMINED BY RAMQ
 0 SIGNIFICANT POINT SOURCES (NSIGP) ARE TO BE USED FOR THIS RUN
 THE ORDER OF SIGNIFICANCE (IMPS) FOR 25 OR LESS POINT SOURCES DETERMINED BY RAMQ IS LISTED BY POINT NO

SOURCE	POINT SOURCE LISTING									
	EAST COORD (USER)	NORTH COORD UNITS)	SO2(G/SEC) EMISSIONS	PARTIC/G/SEC) EMISSIONS	STACK HT(M)	STACK TEMP(K)	STACK DIAM(M)	STACK VEL(M/SEC)		
1 AM HOECH	288.60	4618.80	21.32	0.0	38.10	563.00	1.22	13.70		
2 BIRD AND	303.30	4634.20	27.41	0.0	29.87	468.00	1.22	14.60		
3 BROWN UN	303.30	4634.20	16.10	0.0	26.21	513.00	1.22	18.20		
4 CORNING	300.50	4633.70	87.12	0.0	19.29	507.00	1.22	16.80		
5 CRNSTN P	301.80	4640.80	18.63	0.0	41.50	491.00	2.59	12.30		
6 CRNSTN P	295.70	4629.30	17.42	0.0	15.40	423.00	0.91	8.70		
7 GORHAM	295.70	4629.30	14.50	0.0	15.40	423.00	0.76	12.50		
8 NARGNST	298.20	4629.60	27.79	0.0	45.72	423.00	1.38	10.40		
9 NARGNST	297.10	4630.40	21.78	0.0	57.91	563.00	3.66	11.59		
10 PROV HSG	297.10	4630.40	23.21	0.0	36.58	423.00	1.22	11.50		
11 RI COLLE	295.20	4632.40	17.42	0.0	32.00	451.00	1.68	4.70		
12	295.80	4635.20	18.55	0.0	14.33	535.00	1.90	8.40		

MITCHELL J. GERAGHTY, WALDEN DIV. OF AUCOR, INC., 9/27/79
SFC NET DATA: PROVIDENCE 74 : UPPER AIR: JFK AIRPORT 74

THIS IS THE NORMAL URBAN VERSION(78124) OF RAM FOR APPLICATION TO ONE OR SEVERAL DAYS DATA.

OPTION LIST
OPTION SPECIFICATION : 0= IGNORE OPTION
1= USE OPTION

1	POINT SOURCE DATA	1
2	AREA SOURCE DATA	0
3	PERMANENT RECEPTORS	1
4	SIGNIFICANT POINT RECEPTORS	0
5	SIGNIFICANT AREA RECEPTORS	0
6	HONEYCOMB RECEPTORS	0
7	HOURLY OUTPUT	0
8	PARTIAL CONC. WRITTEN TO DISK/TAPE	0
9	PRINT ONLY SUMMARY HOURLY OUTPUT	0
10	PUNCH CARDS FOR CONTOURS	0
11	READ NET DATA FROM CARDS	0
12	SPECIFY SIGNIFICANT SOURCE NUMBERS	0
13	READ HOURLY EMISSIONS	0

INOUT= 1 (1=HOURLY CONC. OUTPUT, +=365 DAYS, -=LEAP YEAR)
GENERAL INFORMATION FROM RAMQ

UNITS - THERE ARE 1.0000000 USER UNITS(INPUT UNITS) PER SMALLEST AREA SOURCE SQUARE SIDE LENGTH (IN
CURRNE - THERE ARE 1.0000000 KILOMETERS PER USER UNIT
CONTO - IT IS CALCULATED THAT THERE ARE 1.0000000 KILOMETERS PER SMALLEST AREA SOURCE SQUARE SIDE
THIS RUN IS FOR S02 SINCE IPOL= 3

GENERAL INPUT DATA

NUMBER OF PERIODS TO BE SIMULATED(NPER)= 365
AVERAGING TIME IN HOURS FOR EACH PERIOD(NAVG)= 24
STARTING DATE(IDATE(2),IDATE(1),INSTRT): JULIAN DAY 1. YEAR 1974 HOUR= 1
RECEPTOR HEIGHT FOR ALL RECEPTORS(Z) 0.0 METERS
ASSUMED POLLUTANT HALF-LIFE(HAFL) 10800.00 SECONDS
SURFACE NET DATA FROM STATION(1SFCD) 14765. YEAR(1SFCYR) 1974
MIXING HEIGHT DATA FROM STATION(IMXD) 94789. YEAR(IMXYR) 1974

N.J. FULL SULFUR STUDY : PROVIDENCE ARCA. SMALL SOURCES (2.2X 5.)
MICHAEL J. GERRAGHTY, WALDEN DIV. OF ABCOR, INC.: 9/27/79
SFC MCT DATA: PROVIDENCE 74 : UPPER AIR: JFK AIRPORT 74

POINT SOURCE INFORMATION

EMISSION INFORMATION FOR 37 (NPT) POINT SOURCES HAS BEEN DETERMINED BY RAMQ
0 SIGNIFICANT POINT SOURCES (NSIGP) ARE TO BE USED FOR THIS RUN

THE ORDER OF SIGNIFICANCE (IMPS) FOR 25 OR LESS POINT SOURCES DETERMINED BY RAMQ IS LISTED BY POINT SOURCE

3

POINT SOURCE LISTING

SOURCE	EAST COORD (USER)	NORTH COORD (UNITS)	S02(G/SEC) EMISSIONS	PART(G/SEC) EMISSIONS	STACK HT(M)	STACK TEMP(K)	STACK DIAM(M)	STACK VEL(M/SEC)
1 AM INSL	303.50	4639.60	14.37	0.0	38.10	477.00	2.74	1.50
2 ARKWRIGH	288.30	4622.60	4.44	0.0	38.10	443.00	1.83	1.00
3 ATC PLTR	300.20	4631.30	22.88	0.0	38.10	477.00	1.83	1.30
4 CIBA-GEI	299.50	4626.40	13.05	0.0	45.72	577.00	1.07	11.20
5 CULFAX	299.90	4636.70	13.05	0.0	19.20	477.00	0.77	18.20
6 CULFAX	299.90	4636.70	13.05	0.0	16.76	477.00	0.96	12.60
7 COLLYER	300.10	4639.70	11.97	0.0	12.80	521.00	1.52	4.50
8 CORNING	301.80	4640.80	13.42	0.0	36.58	591.00	1.22	9.00
9 CORNING	301.80	4640.80	4.40	0.0	45.72	719.00	1.34	3.00
10 CRNSTN P	295.70	4629.30	4.36	0.0	30.48	423.00	2.23	1.50
11 ENCO	300.60	4637.10	5.43	0.0	17.07	507.00	1.22	3.10
12 NATL BOT	285.10	4619.40	13.05	0.0	10.67	1204.00	1.22	17.90
13 NATL BOT	285.10	4619.40	12.89	0.0	22.86	783.00	2.13	3.80
14 ITT KUYL	304.80	4639.40	3.56	0.0	7.01	501.00	1.22	7.40
15 LEESUNA	298.20	4621.50	8.76	0.0	7.01	563.00	0.76	5.90
16 LEESUNA	298.20	4621.50	2.93	0.0	7.01	563.00	0.76	32.80
17 LEESUNA	296.70	4622.40	9.06	0.0	13.72	479.00	1.22	4.90
18 LEVITON	299.80	4631.70	14.37	0.0	30.48	507.00	1.22	8.30
19 MALINA	302.80	4637.90	4.80	0.0	22.86	549.00	1.22	3.00
20 MEMRL HO	300.90	4635.80	7.85	0.0	35.05	507.00	1.22	4.50
21 MIRIAM H	298.40	4645.30	3.98	0.0	18.29	440.00	0.35	26.00
22 OW CORN	297.60	4635.30	10.00	0.0	36.58	507.00	1.83	2.60
23 PROV CUL	299.60	4634.50	8.71	0.0	15.54	423.00	0.61	16.80
24 PROV GRA	295.80	4635.20	11.59	0.0	10.97	535.00	1.36	15.90
25 RI COLLE	295.20	4648.10	5.21	0.0	27.43	479.00	1.22	1.60
26 RUCHAMBE	295.80	4636.40	4.50	0.0	27.43	479.00	1.22	2.50
27 ST JO HO	298.80	4630.90	5.74	0.0	42.67	563.00	1.63	1.60
28 ST JO HO	302.80	4636.70	8.71	0.0	24.38	516.00	1.52	3.30
29 SLATER D	304.00	4639.50	11.64	0.0	17.98	549.00	2.44	1.80
30 TELNOR A	300.80	4629.90	12.17	0.0	25.91	477.00	1.83	3.02
31 TEXACO	298.30	4626.60	2.42	0.0	12.19	457.00	0.69	4.00
32 UNITED W	298.30	4626.60	6.07	0.0	12.19	457.00	0.60	13.30
33 UNITED W	298.30	4626.60	2.18	0.0	15.24	465.00	0.76	3.00
34 UNITLD W	297.90	4633.70	12.19	0.0	12.80	507.00	0.71	21.30
35 VA HUSPI	297.80	4634.20	9.59	0.0	30.48	479.00	1.52	19.75
36 WUM C IN	293.30	4637.50	8.71	0.0	21.34	479.00	0.91	8.40
37 WORCSIR								

C MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74

THIS IS THE NORMAL URBAN VERSION(70124) OF RAM FOR APPLICATION TO ONE OR SEVERAL DAYS DATA.

OPTION LIST
OPTION SPECIFICATION : 0= IGNORE OPTION
1= USE OPTION

1	POINT SOURCE DATA	1
2	AREA SOURCE DATA	0
3	PERMANENT RECEPTORS	1
4	SIGNIFICANT POINT RECEPTORS	0
5	SIGNIFICANT AREA RECEPTORS	0
6	HONEYCOMB RECEPTORS	0
7	HOURLY OUTPUT	0
8	PARTIAL CONC. WRITTEN TO DISK/TAPE	0
9	PRINT ONLY SUMMARY HOURLY OUTPUT	0
10	PUNCH CARDS FOR CONTOURS	0
11	READ MET DATA FROM CARDS	0
12	SPECIFY SIGNIFICANT SOURCE NUMBERS	0
13	READ HOURLY EMISSIONS	0

IHOUT= 1 (1=HOURLY CONC. OUTPUT, +=365 DAYS, -=LEAP YEAR)
GENERAL INFORMATION FROM RAMQ

UNITS - THERE ARE 1.0000000 USER UNITS(INPUT UNITS) PER SMALLEST AREA SOURCE SQUARE SIDE LENGTH (INTE
CONUNE - THERE ARE 1.0000000 KILOMETERS PER USER UNIT
CONTOU - IT IS CALCULATED THAT THERE ARE 1.0000000 KILOMETERS PER SMALLEST AREA SOURCE SQUARE SIDE LE
THIS RUN IS FOR 502 SINCE IPOL= 3

GENERAL INPUT DATA

NUMBER OF PERIODS TO BE SIMULATED(NPER)= 64
AVERAGING TIME IN HOURS FOR EACH PERIOD(NAVQ)= 24
STARTING DATE(1DATE(2), 1DATE(1), 1HSTRT): JULIAN DAY 302, YEAR 1974 HOUR= 1
RECEPTOR HEIGHT FOR ALL RECEPTORS(Z) 0.0 METERS
ASSUMED POLLUTANT HALF-LIFE(HAFL) 10800.00 SECONDS
SURFACE MET DATA FROM STATION(1SFCD) 14765, YEAR(1SFCDYR) 1974
MIXING HEIGHT DATA FROM STATION(IMXD) 94789, YEAR(IMXYR) 1974

S.E. Moss. - Major

SECRET DATA: PROVIDENCE 74 : UPPER AIR: JFK AIRPORT 74

POINT SOURCE INFORMATION

EMISSION INFORMATION FOR 26 (NPT) POINT SOURCES HAS BEEN DETERMINED BY RAMQ
0 SIGNIFICANT POINT SOURCES(NSIGP) ARE TO BE USED FOR THIS RUN

THE ORDER OF SIGNIFICANCE(IMPS) FOR 25 OR LESS POINT SOURCES DETERMINED BY RAMQ IS LISTED BY POINT SOURCE

SOURCE	EAST COORD (USER	NORTH COORD UNITS)	POINT SOURCE LISTING				STACK TEMP (K)	STACK DIAM (M)	STACK VEL (M/SEC)
			S02(G/SEC) EMISSIONS	PART(G/SEC) EMISSIONS	HT(M)	STACK TEMP (K)			
1 KAISER A	321.50	4616.50	14.97	0.0	12.19	464.00	0.70	10.17	
2	321.50	4616.50	5.34	0.0	12.19	464.00	0.70	10.97	
3	321.30	4617.60	12.36	0.0	50.90	477.00	3.05	6.10	
4	319.10	4658.20	8.41	0.0	40.23	505.00	2.59	0.61	
5	310.90	4645.60	6.36	0.0	24.38	505.00	1.52	3.05	
6	310.90	4645.60	20.85	0.0	22.86	486.00	1.07	5.36	
7	323.90	4635.50	9.71	0.0	22.86	519.00	1.07	9.54	
8	323.90	4635.50	4.58	0.0	23.77	519.00	1.07	6.77	
9	317.10	4656.50	14.35	0.0	22.25	533.00	1.52	17.68	
10	325.20	4636.80	148.66	0.0	56.39	439.00	2.44	18.59	
11	325.20	4636.80	116.73	0.0	56.39	408.00	2.47	11.58	
12	325.20	4636.80	14.30	0.0	19.81	450.00	0.91	5.49	
13	320.30	4638.40	41.62	0.0	76.20	452.00	2.13	5.67	
14	320.30	4638.40	23.92	0.0	35.36	450.00	1.37	17.37	
15	320.30	4638.40	37.85	0.0	76.20	394.00	3.05	5.53	
16 MONTAUP	321.50	4622.60	95.63	0.0	85.95	455.00	5.18	8.06	
17 MONTAUP	321.50	4622.60	212.92	0.0	85.95	452.00	5.18	13.14	
18 MONTAUP	321.50	4622.60	307.12	0.0	85.95	427.00	3.96	12.10	
19 MONTAUP	321.50	4622.60	339.42	0.0	101.19	422.00	3.96	15.51	
20 MONTAUP	321.50	4622.60	10.75	0.0	13.72	719.00	3.96	36.58	
21 MONTAUP	321.50	4622.60	10.75	0.0	13.72	719.00	3.96	36.58	
22 BRAYTON	317.40	4619.40	1282.24	0.0	106.68	400.00	4.42	21.64	
23 BRAYTON	317.40	4619.40	1520.92	0.0	106.68	386.00	5.94	27.13	
24 BRAYTON	317.40	4619.40	1435.27	0.0	152.40	447.00	5.64	31.70	
25 BRAYTON	317.40	4619.40	4.44	0.0	6.10	644.00	0.82	18.29	
26	325.30	4643.20	14.15	0.0	60.96	408.00	2.74	2.56	

C-11

S.E. Mass. - Major

1. FUEL SULFUR STUDY : NEWPORT AREA, MEDIUM SOURCES (2.2% S.)
 MICHAEL J. GLRAGHTY, WALDEN DIV. OF ABCOR, INC., 10/04/79
 SFC MET DATA: PROVIDENCE 74 : UPPER AIR: JFK AIRPORT 74

THIS IS THE NORMAL RURAL VERSION(78124) OF RAMR FOR APPLICATION TO ONE OR SEVERAL DAYS DATA.

OPTION OPTION LIST OPTION SPECIFICATION : 0= IGNORE OPTION
 1= USE OPTION

1	POINT SOURCE DATA	1
2	AREA SOURCE DATA	0
3	PERMANENT RECEPTORS	1
4	SIGNIFICANT POINT RECEPTORS	0
5	SIGNIFICANT AREA RECEPTORS	0
6	HONEYCOMB RECEPTORS	0
7	HOURLY OUTPUT	0
8	PARTIAL CONC. WRITTEN TO DISK/TAPE	0
9	PRINT ONLY SUMMARY HOURLY OUTPUT	0
10	PUNCH CARDS FOR CONTOURS	0
11	READ MET DATA FROM CARDS	0
12	SPECIFY SIGNIFICANT SOURCE NUMBERS	0
13	READ HOURLY EMISSIONS	0

INPUT = 1 (1=HOURLY CONC. OUTPUT, +=365 DAYS, -=LEAP YEAR)
 GENERAL INFORMATION FROM RAMR

UNITS - THERE ARE 1.0000000 USER UNITS(INPUT UNITS) PER SMALLEST AREA SOURCE SQUARE SIDE LENGTH (INTE
 CURONE - THERE ARE 1.0000000 KILOMETERS PER USER UNIT
 COI.TWO - IT IS CALCULATED THAT THERE ARE 1.0000000 KILOMETERS PER SMALLEST AREA SOURCE SQUARE SIDE LE
 THIS RUN IS FOR 502 SINCE IPOL= 3

GENERAL INPUT DATA

NUMBER OF PERIODS TO BE SIMULATED(NPER)= 365
 AVERAGING TIME IN HOURS FOR EACH PERIOD(NAVG)= 24
 STARTING DATE(1DATE(2), 1DATE(1), 1HSTRT): JULIAN DAY 1. YEAR 1974 HOUR= 1
 RECEPTOR HEIGHT FOR ALL RECEPTORS(2) 0.0 METERS
 ASSUMED POLLUTANT HALF-LIFE(HAFL) 10800.00 SECONDS
 SURFACE MET DATA FROM STATION(1SFCO) 14765. YEAR(1SFCYR) 1974
 MIXING HEIGHT DATA FROM STATION(IMXD) 94789. YEAR(1MXR) 1974

N.I. FUEL SULFUR STUDY : NEWPORT AREA. MEDIUM SOURCES (2.2% S.)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCOR, INC., 10/04/79
 SFC MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74

POINT SOURCE INFORMATION

EMISSION INFORMATION FOR 6 (NPT) POINT SOURCES HAS BEEN DETERMINED BY RAMO
 0 SIGNIFICANT POINT SOURCES (NSIGP) ARE TO BE USED FOR THIS RUN
 THE ORDER OF SIGNIFICANCE (IMPS) FOR 25 OR LESS POINT SOURCES DETERMINED BY RAMO IS LISTED BY POINT SOURCE

POINT SOURCE LISTING

SOURCE	EAST COORD (USER	NORTH COORD UNITS)	SO2(G/SEC) EMISSIONS	PART(G/SEC) EMISSIONS	STACK HT(M)	STACK TEMP(K)	STACK DIAM(M)	STACK VEL(M/SEC)
1 KAISER A	311.50	4609.70	16.02	0.0	10.97	513.00	1.22	9.40
2 USN-CUAS	305.50	4597.80	28.29	0.0	25.15	563.00	1.71	9.30
3 USN-COAS	305.50	4597.80	16.32	0.0	22.65	569.00	1.22	10.20
4 USN-COAS	305.50	4597.80	21.76	0.0	29.57	585.00	1.93	5.80
5 USN-COAS	305.50	4597.80	18.50	0.0	22.40	580.00	1.52	7.80
6 USN-COAS	307.20	4599.10	47.92	0.0	24.00	518.00	1.52	9.00

R.I. FUEL SULFUR STUDY : NEWPORT AREA, SMALL SOURCES (2.2% S.)

MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCOR, INC., 10/08/79

SFC MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74

THIS IS THE NORMAL RURAL VERSION(78124) OF RAMR FOR APPLICATION TO ONE OR SEVERAL DAYS DATA.

OPTION	OPTION LIST	OPTION SPECIFICATION :
		0= IGNORE OPTION
		1= USE OPTION

1	POINT SOURCE DATA	1
2	AREA SOURCE DATA	0
3	PERMANENT RECEPTORS	1
4	SIGNIFICANT POINT RECEPTORS	0
5	SIGNIFICANT AREA RECEPTORS	0
6	HONEYCOMB RECEPTORS	0
7	HOURLY OUTPUT	0
8	PARTIAL CONC. WRITTEN TO DISK/TAPE	0
9	PRINT ONLY SUMMARY HOURLY OUTPUT	0
10	PUNCH CARDS FOR CONTOURS	0
11	READ MET DATA FROM CARDS	0
12	SPECIFY SIGNIFICANT SOURCE NUMBERS	0
13	READ HOURLY EMISSIONS	0

IHOUT = 1 (1=HOURLY CONC. OUTPUT, +=365 DAYS, -=LEAP YEAR)
GENERAL INFORMATION FROM RAMQ

UNITS - THERE ARE 1.0000000 USER UNITS(INPUT UNITS) PER SMALLEST AREA SOURCE SQUARE SIDE LE
CONORE - THERE ARE 1.0000000 KILOMETERS PER USER UNIT
CONTO - IT IS CALCULATED THAT THERE ARE 1.0000000 KILOMETERS PER SMALLEST AREA SOURCE SQUA

THIS RUN IS FOR S02 SINCE IPOL= 3

GENERAL INPUT DATA

NUMBER OF PERIODS TO BE SIMULATED(NPER)=	365
AVERAGING TIME IN HOURS FOR EACH PERIOD(NAVG)=	24
STARTING DATE(IDATE(2),IDATE(1),IHSTRT):	JULIAN DAY 1, YEAR 1974 HOUR= 1
RECEPTOR HEIGHT FOR ALL RECEPTORS(Z)	0.0 METERS
ASSUMED POLLUTANT HALF-LIFE(HAFL)	10800.00 SECONDS
SURFACE MET DATA FROM STATION(ISFCD)	14765, YEAR(ISFCYR) 1974
MIXING HEIGHT DATA FROM STATION(IMXD)	94789, YEAR(IMXYR) 1974

Newport - Small

R.I. FUEL SULFUR STUDY : NEWPORT AREA SMALL SOURCES (2.2% S.)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCOR, INC. 10/08/77
 SFC MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74

POINT SOURCE INFORMATION

EMISSION INFORMATION FOR 2 (NPT) POINT SOURCES HAS BEEN DETERMINED BY RAMQ

0 SIGNIFICANT POINT SOURCES(NSIGP) ARE TO BE USED FOR THIS RUN

THE ORDER OF SIGNIFICANCE(IMPS) FOR 25 OR LESS POINT SOURCES DETERMINED BY RAMQ IS LISTED BY P0

POINT SOURCE LISTING

SOURCE	EAST COORD	NORTH COORD	SO2(G/SEC) EMISSIONS	PART(G/SEC) EMISSIONS	STACK HT(M)	STACK TEMP(K)	STACK DIAM(M)	STACK VEL(M/SEC)
1 NEWPORT	307.50	4596.30	13.73	0.0	38.10	535.00	0.91	14.90
2 USN-HELV	309.30	4606.20	24.34	0.0	24.38	423.00	1.52	3.80

R.I. FUEL SULFUR STUDY : S.W. RHODE ISLAND, MAJOR SOURCES (2.2% S.W.)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCOR, INC., 10/08/79
 SFC MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74
 THIS IS THE NORMAL RURAL VERSION(78124) OF RAMR FOR APPLICATION TO ONE OR SEVERAL DAYS DATA.

OPTION	OPTION LIST	OPTION SPECIFICATION : 0= IGNORE OPTION 1= USE OPTION
1	POINT SOURCE DATA	1
2	AREA SOURCE DATA	0
3	PERMANENT RECEPTORS	1
4	SIGNIFICANT POINT RECEPTORS	0
5	SIGNIFICANT AREA RECEPTORS	0
6	HONEYCOMB RECEPTORS	0
7	HOURLY OUTPUT	0
8	PARTIAL CONC. WRITTEN TO DISK/TAPE	0
9	PRINT ONLY SUMMARY HOURLY OUTPUT	0
10	PUNCH CARDS FOR CONTOURS	0
11	READ MET DATA FROM CARDS	0
12	SPECIFY SIGNIFICANT SOURCE NUMBERS	0
13	READ HOURLY EMISSIONS	0

THOUT = 1 (1=HOURLY CONC. OUTPUT, +=365 DAYS, -=LEAP YEAR)

GENERAL INFORMATION FROM RAMQ

UNITS - THERE ARE 1.0000000 USER UNITS(INPUT UNITS) PER SMALLEST AREA SOURCE SQUARE SIDE LE
 CONONE - THERE ARE 1.0000000 KILOMETERS PER USER UNIT
 CONTWO - IT IS CALCULATED THAT THERE ARE 1.0000000 KILOMETERS PER SMALLEST AREA SOURCE SQUA

THIS RUN IS FOR S02 SINCE IPOL= 3

GENERAL INPUT DATA

NUMBER OF PERIODS TO BE SIMULATED(NPER)= 365
 AVERAGING TIME IN HOURS FOR EACH PERIOD(NAVQ)= 24
 STARTING DATE(IDATE(2),IDATE(1),IHSTRT): JULIAN DAY 1, YEAR 1974 HOUR= 1
 RECEPTOR HEIGHT FOR ALL RECEPTORS(Z) 0.0 METERS
 ASSUMED POLLUTANT HALF-LIFE(HAFL) 10800.00 SECONDS
 SURFACE MET DATA FROM STATION(ISFCD) 14765, YEAR(ISFCYR) 1974
 MIXING HEIGHT DATA FROM STATION(IMXD) 94789, YEAR(IMXYR) 1974

S.W.R.I. - Major

R.I. FUEL SULFUR STUDY : S.W. RHODE ISLAND, MAJOR SOURCES (2.2% S.)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCOR, INC., 10/08/79
 SFC MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74
 POINT SOURCE INFORMATION

EMISSION INFORMATION FOR 3 (NPT) POINT SOURCES HAS BEEN DETERMINED BY RAMQ
 0 SIGNIFICANT POINT SOURCES(NSIGP) ARE TO BE USED FOR THIS RUN
 THE ORDER OF SIGNIFICANCE(IMPS) FOR 25 OR LESS POINT SOURCES DETERMINED BY RAMQ IS LISTED BY PC

POINT SOURCE LISTING

SOURCE	EAST COORD (USER UNITS)	NORTH COORD (USER UNITS)	S02(G/SEC) EMISSIONS	PART(G/SEC) EMISSIONS	STACK HT(M)	STACK TEMP(K)	STACK DIAM(M)	STACK VEL(M/SEC)
1 BRADFRD	270.00	4587.30	45.74	0.0	56.69	423.00	3.40	2.50
2 RI PORT	299.20	4606.70	34.94	0.0	19.51	473.00	1.83	7.60
3 URI	288.90	4595.70	36.98	0.0	53.34	479.00	2.44	4.40

R.I. FUEL SULFUR STUDY : S.W. RHODE ISLAND, MAJOR SOURCES (2.2% S.)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCOR, INC., 10/08/79
 SFC MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74
 INPUT RECEIVERS

RECEPTOR	IDENTIFICATION	EAST COORD (USER UNITS)	NORTH COORD (USER UNITS)
1 I	CD1	270.00	4590.90
2 I	CD2	273.60	4587.30
3 I	CD3	270.00	4583.70
4 I	CD4	280.50	4589.10
5 I	CD5	280.50	4593.70
6 I	CD6	292.60	4595.70
7 I	CD7	288.90	4599.40
8 I	CD8	291.70	4603.40
9 I	CD9	299.20	4604.00
10 I	CD10	299.20	4609.40
11 I	IN1	266.60	4585.80
12 I	IN2	278.50	4590.20
13 I	IN3	279.30	4589.30
14 I	IN4	282.60	4592.20
15 I	IN5	289.30	4592.00
16 I	IN6	292.30	4597.40

17 I	IN7	284.20	4602.20
18 I	IN8	279.80	4606.60
19 I	IN9	301.80	4607.40
20 I	GR1	304.60	4612.60
21 I	GR2	304.60	4607.30
22 I	GR3	304.60	4602.00
23 I	GR4	299.30	4612.60
24 I	GR5	299.30	4602.00
25 I	GR6	299.30	4596.60
26 I	GR7	299.30	4591.30
27 I	GR8	299.30	4586.00
28 I	GR9	294.00	4612.60
29 I	GR10	294.00	4607.30
30 I	GR11	294.00	4602.00
31 I	GR12	294.00	4596.60
32 I	GR13	294.00	4591.30
33 I	GR14	294.00	4586.00
34 I	GR15	294.00	4580.60
35 I	GR16	288.60	4612.60
36 I	GR17	288.60	4602.00
37 I	GR18	288.60	4586.00
38 I	GR19	288.60	4580.60
39 I	GR20	283.30	4612.60
40 I	GR21	283.30	4607.30
41 I	GR22	283.30	4596.60
42 I	GR23	283.30	4586.00
43 I	GR24	283.30	4580.60
44 I	GR25	278.00	4612.60
45 I	GR26	278.00	4607.30
46 I	GR27	278.00	4602.00
47 I	GR28	278.00	4596.60
48 I	GR29	278.00	4586.00
49 I	GR30	278.00	4580.60
50 I	GR31	272.60	4612.60
51 I	GR32	272.60	4607.30
52 I	GR33	272.60	4602.00
53 I	GR34	272.60	4596.60
54 I	GR35	272.60	4591.30
55 I	GR36	272.60	4586.00

R.I. FUEL SULFUR STUDY : S.W. RHODE ISLAND, SMALL SOURCES (2.2% 577)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF ABCOR, INC., 10/08/79
 SFC MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74
 THIS IS THE NORMAL RURAL VERSION(78124) OF RAMR FOR APPLICATION TO ONE OR SEVERAL DAYS DATA.

OPTION	OPTION LIST	OPTION SPECIFICATION : 0= IGNORE OPTION 1= USE OPTION
1	POINT SOURCE DATA	1
2	AREA SOURCE DATA	0
3	PERMANENT RECEPTORS	1
4	SIGNIFICANT POINT RECEPTORS	0
5	SIGNIFICANT AREA RECEPTORS	0
6	HONEYCOMB RECEPTORS	0
7	HOURLY OUTPUT	0
8	PARTIAL CONC. WRITTEN TO DISK/TAPE	0
9	PRINT ONLY SUMMARY HOURLY OUTPUT	0
10	PUNCH CARDS FOR CONTOURS	0
11	READ MET DATA FROM CARDS	0
12	SPECIFY SIGNIFICANT SOURCE NUMBERS	0
13	READ HOURLY EMISSIONS	0

INOUT = 1 (1=HOURLY CONC. OUTPUT, 4=365 DAYS, --=LEAP YEAR)
 GENERAL INFORMATION FROM RAMQ

UNITS - THERE ARE 1.0000000 USER UNITS(INPUT UNITS) PER SMALLEST AREA SOURCE SQUARE SIDE LE
 CONONE - THERE ARE 1.0000000 KILOMETERS PER USER UNIT
 CONTWO - IT IS CALCULATED THAT THERE ARE 1.0000000 KILOMETERS PER SMALLEST AREA SOURCE SQUA

THIS RUN IS FOR S02 SINCE IPOL= 3

GENERAL INPUT DATA

NUMBER OF PERIODS TO BE SIMULATED(NPER)= 365
 AVERAGING TIME IN HOURS FOR EACH PERIOD(AVG)= 24
 STARTING DATE(IDATE(2),IDATE(1),IHSTRT): JULIAN DAY 1, YEAR 1974 HOUR= 1
 RECEPTOR HEIGHT FOR ALL RECEPTORS(Z) 0.0 METERS
 ASSUMED POLLUTANT HALF-LIFE(HAFL) 10800.00 SECONDS
 SURFACE MET DATA FROM STATION(ISFCD) 14765, YEAR(ISFCYR) 1974
 MIXING HEIGHT DATA FROM STATION(IMXD) 94789, YEAR(IMXYR) 1974

S.W.R.I.- Small

K.I. FUEL SULFUR STUDY : S.W. RHODE ISLAND, SMALL SOURCES (2.2% S.)
 MICHAEL J. GERAGHTY, WALDEN DIV. OF BECOR, INC., 10/08/79
 SFC MET DATA: PROVIDENCE 74 ; UPPER AIR: JFK AIRPORT 74
 POINT SOURCE INFORMATION

EMISSION INFORMATION FOR 3 (NPT) POINT SOURCES HAS BEEN DETERMINED BY RAMQ
 0 SIGNIFICANT POINT SOURCES(NSIGP) ARE TO BE USED FOR THIS RUN
 THE ORDER OF SIGNIFICANCE(IMPS) FOR 25 OR LESS POINT SOURCES DETERMINED BY RAMQ IS LISTED BY PO
 1

POINT SOURCE LISTING

SOURCE	EAST COORD (USER UNITS)	NORTH COORD (USER UNITS)	SO2(G/SEC) EMISSIONS	PART(G/SEC) EMISSIONS	STACK HT(M)	STACK		STACK VEL(M/SEC)
						TEMP(K)	DIAM(M)	
1 KENYON P	280.50	4591.40	12.61	0.0	38.10	465.00	1.52	4.30
2 KENYON P	280.50	4591.40	6.31	0.0	28.04	507.00	1.37	2.90
3 LAND CEN	287.80	4603.40	8.93	0.0	45.72	493.00	1.83	2.20

PLANT NAME: ZAMBARANU HOSPITAL
RAUDE ISLAND FUEL S

VI. DECEMBER 1979

NO TERRAIN

MAX. EMISSION CASE, 2.2 PCT. SULFUR

MAX. EMISSION CASE: 1974 - 365 DAYS
METEOROLOGICAL YEAR 1974 (UNFORMATTED)
METEOROLOGICAL YEAR 1974 (UNFORMATTED)

HOURLY OUTPUT TO UNIT
PROVIDENCE 1974

SURFACE
UPPER AIR

PLANT LOCATION: RURAL
INPUT TAPE WRITTEN FOR NOM CASE[illegible]

NOTES

ALL TABLES, INCLUDING SOURCE CONTRIBUTION, THAT CONTAIN "ANNUAL" IN THE HEADING ARE BASED ONLY ON THE DATA FOR THE YEAR 1964. TABLES MARKED BY "1" IN THE ABOVE TABLE ARE BASED ON THE DATA FOR THE YEAR 1965.

C-21 (a)

CRATER INPUT
1974

RING DISTANCES(KM)= 0.90 1.40 3.00 5.00 6.90

PLANT ELEVATION (FEET ABOVE SEA LEVEL)-- PLANT ELEVATION (METERS ABOVE SEA LEVEL)--

RECEPTOR ELEVATIONS (FEET ABOVE SEA LEVEL)

RECEPTOR ELEVATIONS (METERS ABOVE SEA LEVEL)

DIRECTION	RING#1	RING#2	RING#3	RING#4	RING#5	RING#1	RING#2	RING#3	RING#4
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

STACK # 1-- ZAMBARANO HOSPITAL - STACK 1

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG. K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	8.7100	18.90	2.13	1.60	479.00	5.70

NAME: LAMARKE FOSTER
RHODE ISLAND FUEL S

02 OCTOBER 1979

NO TERRAIN

MAX. EMISSION CASE, 2.2 PCT. SULFUR

METEOROLOGICAL YEAR 1971 - 365 DAYS

HOURLY OUTPUT TO UNIT 8 (UNFORMATTED)

SURFACE **PROVIDENCE 1971**

UPPER AIR JFK 1971

PLANT LOCATION: RURAL
OUTPUT TAPE WRITTEN FOR NOM CASE

AY--

ALL TABLES, INCLUDING SOURCE CONTRIBUTION, THAT CONTAIN "ANNUAL" IN THE HEADING ARE BASED ONLY MARKED BY "1" IN THE ABOVE TABLE

PLANT NAME: ZAMDARAND HOSPITAL
RHODE ISLAND FUEL S

02 OCTOBER 1979
NO TELRAIN
MAX. LMAISS ION CASE: 2.2 PCT. SULFUR
METEOROLOGICAL YEAR 1970 - 365 DAYS
HOURLY OUTPUT TO UNIT 8 (UNFORMATTED)
SURFACE PROVIDENCE 1970
UPPLR AIR JFK 1970

PLANT LOCATION: RURAL
OUTPUT TAPL WRITTEN FOR NOM CASE

OUTPUT TAPE WRITTEN FOR NUM CASE

DAY--

ALL TABLES, INCLUDING SOURCE CONTRIBUTION, THAT CONTAIN "ANNUAL" IN THE HEADING ARE BASED ONLY MARKED BY "1" IN THE ABOVE TABLE

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	56.8	740126	24	51.5	740222	12
CD2	62.7	740928	24	56.0	741104	24
CD4	66.3	740928	24	61.0	740812	21
CD5	79.9	740503	3	70.9	740509	3
CD7	89.3	740912	6	78.3	740517	3
CD8	197.2	741030	3	101.7	741206	21
CD9	98.1	740702	6	95.4	740130	24
CD10	93.5	741211	24	86.4	740604	3
CD11	239.1	740222	6	117.2	740503	6
CD12	139.8	740222	6	138.3	740604	6
CD13	246.4	741030	3	141.2	740130	24
CD14	180.3	740912	6	124.9	740517	3
CD15	121.8	740503	3	114.6	740909	6
CD16	171.8	740909	6	169.3	740509	3
CD17	275.0	740222	6	199.8	740604	6
CD18	202.7	740323	3	135.4	741029	24
CD19	162.6	740323	3	146.1	740604	6
CD20	289.3	741206	24	185.0	740927	24
CD21	166.1	740219	9	147.7	740701	24
CD22	224.1	740426	3	182.4	740601	24
CD23	328.4	741206	24	241.6	740927	24
CD24	240.4	740323	3	153.6	740928	6
CD25	309.7	741030	3	168.2	740130	24
CD27	127.9	740729	24	105.7	741120	12
CD28	200.0	740723	24	87.1	740724	3
CD29	106.7	740607	24	106.6	740723	24
CD30	174.7	740531	3	81.0	740531	6
CD31	165.6	740129	24	127.5	740607	24

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD32	201.5	740129	24	181.9	740723	24
CD34	290.4	740531	3	138.1	740531	6
CD35	168.2	740530	24	143.6	740616	9
CD36	358.3	740723	24	175.9	740607	24
CD38	328.9	740723	24	213.8	741120	15
CD39	289.0	741120	15	277.4	741120	12
CD40	317.5	740928	24	267.9	740126	18
CD41	266.4	741030	3	240.4	741030	12
CD42	245.8	740812	21	207.2	740928	24
CD43	432.6	741030	3	267.2	740130	24
CD44	337.1	740222	6	253.7	741206	24
CD45	375.0	740321	3	329.9	740812	6
CD46	445.4	741206	24	334.6	740927	24
CD47	467.5	740821	15	435.7	740222	18
CD49	288.5	740813	3	277.9	741225	3
CD50	210.2	741207	3	204.8	740819	6
CD51	111.7	740227	6	109.8	741028	3
CD52	202.4	740721	6	173.9	741020	21
CD53	293.2	741014	3	258.0	740624	3
CD54	232.7	740925	3	211.9	740624	3
CD55	237.2	740907	24	223.2	740908	3
CD56	197.1	740926	6	163.2	740906	6

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 467.5 MICROGRAMS PER CUBIC METER, ON 740821 AT HOUR 15 FOR
SULFUR DIOXIDE SITE CD47

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 435.7 MICROGRAMS PER CUBIC METER, ON 740222 AT HOUR 18 FOR
SULFUR DIOXIDE SITE CD47

WALDEN DIV. OF ABCUR, INC.
PROVIDENCE PSD RESULTS - SCENARIO I

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	-999.	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.	ARITHMETIC MEAN STD.DEV. ME	
CD1	100.0	15.2	6.4	2.6	0.9	0.1	0.0	0.0	0.0	0.0	0.0	1.0	3.6
CD2	100.0	16.7	7.4	3.4	1.3	0.5	0.1	0.0	0.0	0.0	0.0	1.2	4.3
CD3	100.0	18.0	8.0	4.1	2.5	0.7	0.1	0.0	0.0	0.0	0.0	1.4	6.0
CD4	100.0	18.8	9.5	5.3	2.6	0.8	0.3	0.0	0.0	0.0	0.0	1.8	6.3
CD5	100.0	18.3	10.3	6.6	3.4	1.1	0.3	0.2	0.1	0.0	0.0	2.0	7.9
CD6	100.0	17.8	11.1	6.5	3.3	1.1	0.3	0.2	0.0	0.0	0.0	2.3	7.9
CD7	100.0	17.2	11.6	7.7	4.6	1.8	0.7	0.2	0.1	0.0	0.0	2.2	8.0
CD8	100.0	17.9	11.7	7.7	4.6	1.8	0.7	0.2	0.1	0.0	0.0	2.3	10.4
CD9	100.0	15.4	11.7	6.7	4.2	1.2	0.6	0.3	0.2	0.0	0.0	2.3	10.4
CD10	100.0	22.3	12.5	6.5	4.2	1.7	0.8	0.3	0.2	0.0	0.0	3.0	10.3
CD11	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD12	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD13	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD14	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD15	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD16	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD17	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD18	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD19	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD20	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD21	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD22	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD23	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD24	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD25	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD26	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD27	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD28	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD29	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD30	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD31	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD32	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD33	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD34	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD35	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD36	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD37	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD38	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD39	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3
CD40	100.0	22.3	12.5	7.8	4.1	1.9	0.8	0.3	0.1	0.0	0.0	3.0	10.3

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO I
TABLE

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE							150.	200.	ARITHMETIC MEAN STD.DEV. ME	
			5.	10.	20.	40.	60.	80.	100.				
CD41	100.0	34.0	22.4	17.7	13.2	9.3	6.7	4.1	2.5	0.7	0.1	10.3	27.1
CD42	100.0	29.4	19.9	16.6	12.5	6.3	3.6	1.8	0.8	0.2	0.1	17.5	20.2
CD43	100.0	30.0	21.6	16.0	11.3	6.3	3.6	1.8	0.8	0.2	0.1	8.4	24.9
CD44	100.0	38.6	27.2	20.5	14.3	7.1	4.8	2.8	1.6	0.5	0.2	10.0	24.8
CD45	100.0	47.4	34.9	24.8	15.7	7.9	5.1	2.3	1.2	0.4	0.2	10.7	24.1
CD46	100.0	39.8	27.2	21.8	17.4	12.2	7.8	3.8	2.2	0.4	0.2	12.5	29.4
CD47	100.0	38.1	28.9	25.4	18.5	13.2	10.5	8.4	6.6	3.7	2.2	20.0	52.7
CD48	100.0	53.5	30.4	23.0	16.1	10.4	6.9	3.5	2.2	0.5	0.2	12.7	27.7
CD49	100.0	54.3	33.1	23.3	14.5	10.4	6.9	3.5	2.2	0.5	0.2	19.7	20.2
CD50	100.0	43.5	20.9	11.7	4.2	1.5	0.5	0.1	0.1	0.0	0.0	4.0	9.0
CD51	100.0	54.0	31.2	22.4	14.0	7.1	3.6	1.8	1.0	0.1	0.0	9.4	19.9
CD52	100.0	51.2	33.3	23.7	16.4	9.5	5.6	3.1	1.9	0.4	0.1	11.4	24.8
CD53	100.0	52.4	34.9	24.3	14.9	6.7	3.4	1.6	0.8	0.2	0.1	9.5	19.3
CD54	100.0	51.2	36.1	24.1	12.8	4.9	2.4	1.1	0.7	0.1	0.1	8.6	17.8
CD55	100.0	48.2	31.0	22.0	11.7	3.8	1.4	0.7	0.2	0.1	0.0	7.2	14.5

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	11.6	740126	24	10.9	740928	24
CD2	23.3	740928	24	11.8	741030	24
CD4	19.8	740928	24	14.7	740126	24
CD5	15.6	741114	24	14.6	740909	24
CD7	19.7	740912	24	15.5	741029	24
CD8	42.3	741030	24	20.9	740621	24
CD9	36.7	741030	24	27.2	740130	24
CD10	26.1	741030	24	20.1	740213	24
CD11	36.1	740222	24	23.0	740503	24
CD12	30.1	740604	24	22.4	740820	24
CD13	59.2	741030	24	32.4	740130	24
CD14	38.4	740912	24	25.6	740817	24
CD15	26.1	740909	24	35.5	741114	24
CD16	38.3	740909	24	35.5	740222	24
CD17	42.6	740604	24	37.9	740604	24
CD18	44.8	740912	24	42.9	741030	24
CD19	38.9	740604	24	31.5	740927	24
CD20	52.9	741206	24	41.3	741006	24
CD21	36.3	740219	24	26.3	741119	24
CD22	40.7	740807	24	40.4	740927	24
CD23	58.5	741206	24	45.0	740213	24
CD24	49.8	740604	24	44.2	740621	24
CD25	73.6	741030	24	50.6	740412	24
CD27	38.0	740729	24	29.4	741120	24
CD28	32.9	740723	24	19.2	740723	24
CD29	20.4	740607	24	19.2	740303	24
CD30	32.5	740531	24	27.0	740723	24
CD31	26.3	740607	24	22.5		24

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD32	35.2	740607	24	32.0	740723	24
CD34	55.0	740531	24	45.0	740303	24
CD35	36.4	740506	24	34.7	740616	24
CD36	61.5	740723	24	43.6	741030	24
CD38	73.0	741120	24	65.7	740723	24
CD39	112.4	741120	24	102.0	740512	24
CD40	123.9	740928	24	91.2	740126	24
CD41	91.3	741030	24	76.9	740621	24
CD42	87.9	740928	24	55.5	740126	24
CD43	121.8	741030	24	70.8	740130	24
CD44	61.2	740222	24	60.9	740422	24
CD45	80.9	741206	24	79.7	740812	24
CD46	83.2	741206	24	61.4	740422	24
CD47	170.2	740827	24	166.9	740817	24
CD49	70.7	740401	24	66.5	740122	24
CD50	53.4	740102	24	47.1	740314	24
CD51	22.3	740227	24	19.4	740312	24
CD52	54.8	740720	24	45.7	741222	24
CD53	63.6	740624	24	60.7	740111	24
CD54	79.1	740110	24	47.6	740111	24
CD55	42.5	741106	24	41.5	740111	24
CD56	60.8	740110	24	46.8	741102	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 170.2 MICROGRAMS PER CUBIC METER, ON 740627 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD47

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 168.9 MICROGRAMS PER CUBIC METER, ON 740817 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD47

WALDEN DIV. OF ADCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER QUIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STAT CON/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD57	106.7	740925	3	105.5	740329	6
CD58	135.9	740602	3	122.6	741102	9
CD59	179.1	741206	24	109.6	740927	24
CD60	160.8	741027	24	114.9	741028	3
CD61	223.1	741027	24	186.1	740628	6
CD62	138.4	740426	24	121.3	740121	3
CD63	66.6	741130	24	63.8	740925	3
CD64	146.4	741014	3	128.0	740624	3
CD65	138.6	740814	6	108.2	740926	6
CD66	99.7	740615	3	98.7	740402	3
CD67	217.6	740914	6	154.3	740926	6
CD68	210.1	741014	3	168.2	740624	6
CD69	161.7	740912	6	160.6	740909	6
CD70	84.4	740402	6	44.0	740831	9
CD71	286.8	740402	6	142.8	741013	24
CD72	132.9	740221	21	110.2	740812	21
CD73	145.6	740912	6	139.9	740421	3
CD74	164.6	740806	24	152.8	740807	24
CD75	132.6	740624	3	127.3	741014	3
CD76	54.0	740625	21	44.1	740625	18
CD77	93.6	740530	24	75.2	741029	21
CD78	59.7	740907	21	38.0	741104	21
CD79	213.9	740912	6	192.3	740901	21
CD80	270.1	740807	24	208.1	740806	24
CD81	230.6	741014	3	224.5	740624	3
GR01	131.1	740807	24	102.8	740219	9
GR02	90.4	740807	24	63.0	740219	9
GR03	103.1	741206	24	81.2	740727	3

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR04	77.9	740321	3	66.9	740812	6
GR05	64.6	741211	24	58.5	740604	3
GR06	56.3	740323	3	39.8	740928	6
GR07	46.1	740412	21	42.1	741120	12
GR11	142.1	740221	21	125.0	740126	24
GR12	58.9	740531	3	51.8	740326	3
GR13	106.6	740608	3	89.0	740716	24
GR14	132.7	740402	6	91.7	740612	21
GR15	43.4	740907	21	40.3	740402	6
GR16	131.7	740624	6	118.1	740907	24
GR17	163.7	740615	3	146.2	740402	3
GR18	300.4	740805	24	247.9	741006	6
GR19	219.0	740813	3	207.4	741225	3
LR01	29.5	741104	21	25.1	740303	21
LR02	19.6	740413	24	16.3	740413	21
LR03	21.4	741225	9	18.8	740413	21
LR04	35.8	741014	3	29.4	740603	3
LR05	21.0	740111	12	20.0	740721	6
LR06	14.5	741205	21	13.4	740324	6
MO01	399.9	740704	12	391.5	740521	15
MO02	235.8	740126	24	215.0	740517	6
MO03	174.8	741030	3	106.3	741030	12

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 399.9 MICROGRAMS PER CUBIC METER, ON 740704 AT HOUR 12 FOR
SULFUR DIOXIDE DYER ST.

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 391.5 MICROGRAMS PER CUBIC METER, ON 740521 AT HOUR 15 FOR
SULFUR DIOXIDE DYER ST.

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

LATITUDE/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE							200.	ARITHMETIC MEAN STD. DEV.	GEOM MEAN S	
			5.	10.	20.	40.	60.	80.	100.				150.
001	100.0	49.3	32.1	22.3	12.4	4.2	1.1	0.3	0.1	0.0	7.3	13.4	N/A
002	100.0	47.7	31.2	21.7	11.5	2.5	1.0	0.4	0.2	0.0	6.7	12.8	N/A
003	100.0	36.0	23.2	14.9	6.5	2.0	0.7	0.3	0.1	0.0	4.7	11.1	N/A
004	100.0	30.4	19.1	13.0	7.2	2.2	0.8	0.5	0.3	0.0	4.4	11.8	N/A
005	100.0	33.0	19.2	13.6	8.8	3.8	1.6	0.8	0.5	0.2	5.6	15.7	N/A
006	100.0	29.3	15.1	10.4	6.3	2.6	1.1	0.5	0.3	0.0	4.0	12.0	N/A
007	100.0	41.7	19.5	9.8	3.6	0.5	0.1	0.0	0.0	0.0	3.3	6.9	N/A
008	100.0	40.5	20.8	12.2	5.4	1.6	0.4	0.2	0.1	0.0	4.2	9.9	N/A
009	100.0	40.5	22.0	13.9	6.3	1.6	0.4	0.2	0.1	0.0	4.4	9.8	N/A
010	100.0	44.6	25.0	14.2	6.3	1.5	0.3	0.1	0.0	0.0	4.7	9.5	N/A
011	100.0	45.5	25.3	15.8	7.6	2.9	1.3	0.5	0.2	0.1	5.7	13.6	N/A
012	100.0	45.7	26.7	16.3	8.6	2.5	1.1	0.5	0.2	0.1	5.6	14.9	N/A
013	100.0	32.4	22.3	15.9	8.5	3.5	1.6	0.8	0.5	0.1	3.7	10.9	N/A
014	100.0	24.3	9.5	4.9	1.7	0.2	0.0	0.0	0.0	0.0	4.5	10.6	N/A
015	100.0	29.4	16.4	11.7	5.5	1.6	0.5	0.2	0.1	0.0	7.1	16.3	N/A
016	100.0	29.8	22.5	16.2	7.4	1.8	0.5	0.2	0.1	0.0	7.0	15.8	N/A
017	100.0	33.8	25.5	19.0	12.4	4.9	2.3	0.7	0.4	0.1	1.3	4.3	N/A
018	100.0	40.2	24.7	18.6	12.1	7.3	2.7	0.8	0.4	0.0	1.2	3.6	N/A
019	100.0	15.2	9.1	4.1	1.2	0.2	0.1	0.0	0.0	0.0	0.9	17.2	N/A
020	100.0	17.9	10.4	5.9	1.9	0.0	0.0	0.0	0.0	0.0	2.7	8.1	N/A
021	100.0	16.3	7.8	3.7	0.9	0.0	0.0	0.0	0.0	0.0	1.7	5.5	N/A
022	100.0	44.2	26.3	17.7	9.7	4.1	2.0	0.9	0.6	0.3	1.2	3.6	N/A
023	100.0	27.5	22.5	17.4	10.0	4.2	2.3	1.3	0.5	0.1	0.9	16.9	N/A
024	100.0	26.8	13.8	7.4	3.5	5.4	2.1	1.1	0.7	0.1	0.9	17.7	N/A
025	100.0	22.8	9.7	5.0	2.0	1.2	0.3	0.1	0.1	0.0	2.7	8.1	N/A
026	100.0	21.0	13.3	7.4	3.1	0.7	0.3	0.1	0.0	0.0	1.8	5.3	N/A
027	100.0	21.0	10.0	5.0	1.7	0.2	0.1	0.0	0.0	0.0	2.3	7.1	N/A
028	100.0	11.0	6.6	4.1	1.4	0.1	0.0	0.0	0.0	0.0	1.1	4.4	N/A
029	100.0	9.8	5.1	2.7	0.7	0.0	0.0	0.0	0.0	0.0	0.8	3.3	N/A
030	100.0	15.8	5.9	2.5	0.5	0.1	0.0	0.0	0.0	0.0	0.9	3.2	N/A
031	100.0	22.8	13.2	6.9	3.9	1.3	0.3	0.2	0.1	0.0	2.0	8.9	N/A
032	100.0	17.4	5.2	2.3	0.6	0.1	0.0	0.0	0.0	0.0	1.0	3.4	N/A
033	100.0	22.5	9.2	4.8	1.6	0.3	0.1	0.1	0.0	0.0	1.7	5.6	N/A

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	PERCENT GREATER THAN INDICATED VALUE											ARITHMETIC		GEOM. MEAN
	-999.	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.	MEAN	STD. DEV.	
0014	100.0	29.3	16.8	9.6	4.0	1.0	0.3	0.1	0.0	0.0	0.0	3.1	8.3	N/A
0015	100.0	12.9	6.3	3.0	0.7	0.1	0.0	0.0	0.0	0.0	0.0	1.0	3.4	N/A
0016	100.0	55.2	34.5	22.1	9.5	2.7	0.6	0.3	0.0	0.0	0.0	6.7	11.8	N/A
0017	100.0	43.6	25.1	17.8	9.7	3.8	1.7	0.5	0.0	0.0	0.0	6.3	14.2	N/A
0018	100.0	44.4	23.7	16.2	10.0	4.7	2.4	1.2	0.0	0.0	0.0	6.8	17.6	N/A
0019	100.0	40.3	21.0	13.7	7.2	3.4	1.7	1.0	0.5	0.2	0.1	5.6	15.9	N/A
0021	100.0	3.6	0.6	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0	N/A
0022	100.0	7.2	1.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.3	N/A
0023	100.0	10.1	2.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.7	N/A
0024	100.0	19.9	5.8	1.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.7	N/A
0025	100.0	15.9	2.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.6	N/A
0026	100.0	11.0	2.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.3	N/A
0027	100.0	39.7	20.3	24.3	17.0	11.8	10.6	9.2	8.3	5.2	3.4	21.6	57.6	N/A
0028	100.0	35.0	22.9	18.5	14.1	10.1	7.5	5.1	2.9	0.8	0.1	11.2	28.6	N/A
0029	100.0	25.0	13.0	8.8	4.7	2.0	0.6	0.3	0.1	0.0	0.0	3.2	10.5	N/A

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD57	60.8	740110	24	33.4	740329	24
CD58	47.8	740110	24	39.5	740830	24
CD59	35.6	741105	24	30.5	741206	24
CD60	43.7	740625	24	32.5	741028	24
CD61	68.1	740625	24	35.4	741112	24
CD62	38.2	740527	24	37.2	740121	24
CD63	32.5	740110	24	15.5	740109	24
CD64	26.0	740624	24	20.4	740110	24
CD65	36.0	740110	24	23.4	740830	24
CD66	25.7	740110	24	43.6	741111	24
CD67	44.2	741225	24	30.9	740814	24
CD68	41.6	740624	24	40.7	741221	24
CD69	43.3	740323	24	11.8	740909	24
CD70	12.4	740402	24	28.6	740530	24
CD71	41.7	740402	24	24.4	741013	24
CD72	29.1	740625	24	41.2	740928	24
CD73	46.6	740817	24	37.0	741114	24
CD74	38.5	740709	24	43.4	741005	24
CD75	46.2	740904	24	11.5	740208	24
CD76	23.9	740625	24	22.5	741105	24
CD77	25.0	740625	24	9.2	740530	24
CD78	15.7	740625	24	46.5	740907	24
CD79	48.4	740909	24	37.6	740912	24
CD80	46.5	740219	24	41.6	740807	24
CD81	54.0	740624	24	17.2	740110	24
GR01	24.8	740219	24	14.8	740807	24
GR02	15.0	740219	24	19.3	740807	24
GR03	22.6	740422	24		741206	24

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR04	17.2	741206	24	16.1	740812	24
GR05	12.2	740213	24	11.3	740228	24
GR06	19.1	740213	24	8.1	740928	24
GR07	14.4	740729	24	11.7	740412	24
GR11	29.5	740126	24	27.4	740403	24
GR12	17.9	740303	24	12.4	740531	24
GR13	19.3	740608	24	17.4	740509	24
GR14	21.7	740812	24	19.5	740928	24
GR15	15.6	740625	24	9.6	740402	24
GR16	30.9	740111	24	26.0	740624	24
GR17	32.3	740105	24	31.2	740930	24
GR18	51.6	741006	24	42.2	740805	24
GR19	41.9	741225	24	41.7	741128	24
LR01	3.6	740303	24	3.7	741104	24
LR02	6.1	740413	24	4.8	740203	24
LR03	8.2	740413	24	7.1	741105	24
LR04	8.0	740208	24	7.1	740207	24
LR05	5.1	740406	24	3.9	740111	24
LR06	3.5	741205	24	3.0	741202	24
MO01	156.3	740617	24	151.1	740723	24
MO02	191.7	740729	24	83.6	740531	24
MO03	47.7	741030	24	43.3	740621	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 156.3 MICROGRAMS PER CUBIC METER. ON 740617 AT HOUR 24 FOR
SULFUR DIOXIDE DYER ST.

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 151.1 MICROGRAMS PER CUBIC METER. ON 740723 AT HOUR 24 FOR
SULFUR DIOXIDE DYER ST.

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD48	423.4	740703	15	422.6	740609	9
THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES WAS 423.4 MICROGRAMS PER CUBIC METER, ON 740703 AT HOUR 15 FOR SULFUR DIOXIDE SITE CD48						
THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES WAS 422.6 MICROGRAMS PER CUBIC METER, ON 740609 AT HOUR 9 FOR SULFUR DIOXIDE SITE CD48						

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	PERCENT GREATER THAN INDICATED VALUE											ARITHMETIC MEAN STD.DEV.		GEO MEAN
	-999.	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.			
54B	100.0	57.9	43.8	35.5	23.8	15.2	12.4	9.8	8.2	5.3	3.3	25.6	57.6	N/A

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WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD48	231.2	740223	24	202.1	740317	24
THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES WAS 231.2 MICROGRAMS PER CUBIC METER. ON 740223 AT HOUR 24 FOR SULFUR DIOXIDE SITE CD48						
THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES WAS 202.1 MICROGRAMS PER CUBIC METER. ON 740317 AT HOUR 24 FOR SULFUR DIOXIDE SITE CD48						

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15.3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
C01	68.3	740126	24	59.2	740221	21
C02	71.3	740928	24	66.6	741104	24
C04	79.4	740928	24	79.2	740812	21
C05	98.1	740909	6	97.9	740509	3
C07	140.6	740912	6	115.1	740517	3
C08	253.8	741030	3	142.0	741206	21
C09	147.7	741030	6	130.6	740130	21
C010	138.3	741211	24	131.6	740604	3
C011	266.1	740222	6	139.5	740503	6
C012	224.9	740222	6	180.5	740604	6
C013	304.4	741030	3	198.7	740130	24
C014	268.3	740912	6	176.0	740517	3
C015	186.1	740909	6	164.3	740509	3
C016	278.7	740909	6	242.9	740509	3
C017	329.5	740222	6	227.2	740604	6
C018	259.8	740222	6	224.0	740912	6
C019	255.2	740222	6	204.7	740604	6
C020	382.6	741206	24	257.3	740927	24
C021	173.5	740219	9	153.4	740807	24
C022	246.8	740426	3	192.4	740601	24
C023	358.8	741206	24	253.4	740927	24
C024	264.1	740222	6	250.7	740323	3
C025	570.4	741030	3	322.9	740130	24
C027	144.8	740723	24	135.2	740729	24
C028	202.3	740723	24	87.3	740724	3
C029	111.0	740723	24	107.7	740607	24
C030	176.0	740531	3	95.0	740531	6
C031	170.3	740129	24	131.6	740607	24

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE
PSD RESULTS - SCENARIO 2
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
C032	216.0	740607	24	214.6	740129	24
C034	290.4	740531	3	141.3	740531	6
C035	172.6	740530	24	149.1	741029	21
C036	358.3	740723	24	249.3	740607	24
C038	328.9	740723	24	286.6	741008	21
C039	292.8	740907	21	289.0	741120	15
C040	317.5	740928	24	285.5	740506	21
C041	421.2	740404	18	406.5	740605	18
C042	257.2	740812	21	237.1	740421	6
C043	433.4	741030	3	322.8	740222	6
C044	356.7	740222	6	356.4	740601	24
C045	422.3	740321	3	367.2	740812	6
C046	464.6	741206	24	348.6	740927	24
C047	467.5	740821	15	435.7	740222	18
C049	288.7	740813	3	278.8	741225	3
C050	216.3	741207	3	211.6	740402	3
C051	120.9	740227	6	113.4	741028	3
C052	208.2	740721	6	175.9	740712	3
C053	399.4	741014	3	360.9	740624	3
C054	308.6	740925	3	264.3	740624	3
C055	267.5	740907	24	237.7	740908	3
C056	230.7	740926	6	197.8	740906	6

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 570.4 MICROGRAMS PER CUBIC METER, ON 741030 AT HOUR 3 FOR
SULFUR DIOXIDE SITE C025

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 435.7 MICROGRAMS PER CUBIC METER, ON 740222 AT HOUR 18 FOR
SULFUR DIOXIDE SITE C047

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15.3 HOURS)

STATION/RECEPTOR	-999.	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.	ARITHMETIC MEAN STD. DEV. MCA	G	
CD1	100.0	20.2	9.5	4.8	1.4	0.1	0.0	0.0	0.0	0.0	0.0	1.5	4.7	N
CD2	100.0	22.2	11.6	5.8	1.9	0.4	0.1	0.0	0.0	0.0	0.0	1.9	5.7	N
CD3	100.0	23.3	12.8	6.5	2.3	0.5	0.1	0.0	0.0	0.0	0.0	2.1	6.1	N
CD4	100.0	24.5	14.7	8.6	3.4	1.0	0.3	0.1	0.0	0.0	0.0	2.7	8.1	N
CD5	100.0	25.1	15.3	9.7	4.4	1.5	0.5	0.2	0.1	0.0	0.0	3.2	9.4	N
CD6	100.0	33.7	20.4	12.4	5.7	1.5	0.6	0.3	0.2	0.0	0.0	4.1	11.3	N
CD7	100.0	36.3	19.4	11.4	6.0	2.1	1.0	0.3	0.1	0.0	0.0	4.3	11.3	N
CD8	100.0	32.9	17.8	11.3	5.5	2.4	0.9	0.2	0.1	0.0	0.0	4.0	11.0	N
CD9	100.0	29.2	17.3	12.1	7.3	3.2	1.2	0.6	0.2	0.0	0.0	4.6	13.6	N
CD10	100.0	31.1	17.0	12.7	7.7	3.3	1.3	0.5	0.2	0.1	0.0	4.4	13.6	N
CD11	100.0	48.7	24.5	14.5	7.5	2.7	1.6	0.7	0.4	0.1	0.0	5.7	15.0	N
CD12	100.0	46.5	25.8	15.1	6.8	3.0	1.5	0.9	0.5	0.1	0.0	5.8	14.7	N
CD13	100.0	34.5	19.6	12.4	6.4	2.4	1.1	0.4	0.3	0.1	0.0	4.6	12.8	N
CD14	100.0	43.7	22.8	15.7	8.9	3.9	2.2	1.3	0.7	0.2	0.1	6.5	17.6	N
CD15	100.0	36.3	21.0	16.0	11.7	5.4	2.8	1.4	0.7	0.1	0.1	7.1	18.9	N
CD16	100.0	41.1	27.4	22.2	15.8	8.2	4.2	2.1	1.3	0.3	0.2	9.8	22.5	N
CD17	100.0	37.5	22.5	18.2	12.8	6.0	3.2	1.3	0.7	0.1	0.1	7.6	18.7	N
CD18	100.0	37.9	29.1	24.5	17.1	8.0	4.0	2.1	0.9	0.2	0.1	10.0	22.7	N
CD19	100.0	49.3	29.4	20.3	10.3	3.9	1.7	0.8	0.3	0.1	0.0	6.9	14.7	N
CD20	100.0	48.5	32.4	23.8	14.3	6.5	3.3	1.8	0.8	0.3	0.0	9.2	19.7	N
CD21	100.0	42.7	37.1	33.4	24.0	11.5	6.2	2.8	1.5	0.3	0.1	13.7	25.8	N
CD22	100.0	51.4	36.6	28.0	18.7	9.8	5.2	2.6	1.4	0.2	0.1	12.0	23.8	N
CD23	100.0	47.7	25.0	16.7	10.8	5.9	3.3	2.2	1.3	0.5	0.2	8.4	25.0	N
CD24	100.0	41.9	26.5	16.7	8.0	2.5	0.8	0.3	0.1	0.0	0.0	5.5	11.8	N
CD25	100.0	28.9	18.4	10.7	3.6	0.7	0.3	0.1	0.0	0.0	0.0	3.1	8.4	N
CD26	100.0	25.5	12.9	6.6	2.0	0.5	0.1	0.1	0.1	0.0	0.0	2.1	6.3	N
CD27	100.0	28.5	13.8	7.7	2.3	0.6	0.2	0.1	0.0	0.0	0.0	2.5	7.3	N
CD28	100.0	32.2	24.1	16.8	8.2	2.0	0.8	0.2	0.2	0.0	0.0	5.0	11.8	N
CD29	100.0	32.6	34.2	20.1	8.9	2.6	1.0	0.5	0.2	0.1	0.1	6.6	13.3	N
CD30	100.0	59.0	35.5	19.2	7.4	1.9	0.8	0.3	0.1	0.0	0.0	6.3	12.0	N
CD31	100.0	62.9	35.8	21.5	10.1	3.5	1.6	0.6	0.3	0.0	0.0	7.5	14.0	N
CD32	100.0	56.2	31.7	20.7	9.7	3.4	1.5	0.8	0.5	0.1	0.1	7.2	16.5	N
CD33	100.0	62.8	39.9	27.0	16.8	9.0	5.4	2.7	1.8	0.5	0.1	12.1	24.5	N
CD34	100.0	69.6	49.8	39.4	28.7	17.2	12.3	7.9	5.4	1.8	0.7	21.7	37.8	N
CD35	100.0	61.0	41.2	32.4	24.2	17.2	12.7	8.5	5.6	2.0	0.6	20.4	36.8	N

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WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2
TABLE

STATISTICS/RECEPTOR	-99.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD. DEV.		GEN MEAN
			5.	10.	20.	40.	60.	80.	100.	150.	200.	29.1	60.7		
CD41	100.0	56.7	37.1	30.4	25.3	19.8	16.6	13.6	11.1	6.2	3.2	29.1	60.7	N/	
CD42	100.0	53.0	32.6	24.9	18.3	11.0	6.0	3.2	1.6	0.4	0.1	12.4	25.7	N/	
CD43	100.0	52.8	33.2	26.4	22.1	17.3	13.5	9.6	6.7	2.7	0.9	20.6	43.3	N/	
CD44	100.0	61.6	44.9	36.4	27.2	16.1	9.6	5.3	3.2	1.1	0.4	18.4	33.5	N/	
CD45	100.0	64.6	55.6	47.7	37.4	23.9	13.3	7.3	4.2	1.1	0.4	24.3	35.9	N/	
CD46	100.0	65.9	50.4	41.4	31.4	19.5	12.0	7.3	4.3	1.1	0.5	22.0	36.6	N/	
CD47	100.0	80.1	60.6	48.9	37.3	21.9	14.7	10.5	7.6	3.9	2.3	30.3	53.3	N/	
CD48	100.0	73.2	53.0	38.0	24.0	13.4	8.3	4.8	2.6	0.8	0.2	17.3	29.6	N/	
CD49	100.0	69.0	45.7	31.9	18.9	8.9	4.5	2.1	1.1	0.2	0.0	12.5	21.8	N/	
CD50	100.0	58.6	31.6	18.2	6.6	2.0	0.6	0.3	0.1	0.0	0.0	5.8	10.4	N/	
CD51	100.0	73.7	46.6	32.4	19.4	9.0	4.9	2.6	1.4	0.3	0.0	13.1	22.3	N/	
CD52	100.0	75.1	50.3	34.3	21.9	11.4	6.8	4.2	2.5	0.9	0.3	16.0	29.5	N/	
CD53	100.0	78.3	53.4	36.6	20.3	9.1	4.4	2.4	1.3	0.2	0.1	14.0	23.0	N/	
CD54	100.0	72.6	50.5	33.2	17.4	7.1	3.8	2.0	1.1	0.3	0.1	12.2	20.9	N/	
CD55	100.0	75.5	47.5	31.0	15.5	5.3	2.2	1.1	0.5	0.1	0.0	10.5	16.8	N/	

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	17.2	740126	24	14.5	740323	24
CD2	28.6	740928	24	16.7	740929	24
CD4	25.6	740928	24	19.9	740126	24
CD5	20.3	741114	24	19.9	740909	24
CD7	30.8	740912	24	23.6	740820	24
CD8	58.1	741030	24	32.3	741206	24
CD9	48.6	741030	24	36.2	740130	24
CD10	33.4	740213	24	31.9	741030	24
CD11	42.7	740222	24	33.0	740422	24
CD12	40.9	740604	24	33.8	740222	24
CD13	82.8	741030	24	51.0	740130	24
CD14	37.7	740912	24	37.8	740820	24
CD15	56.5	740909	24	33.3	741114	24
CD16	55.6	740909	24	47.3	741114	24
CD17	52.6	740604	24	50.1	740222	24
CD18	64.9	740912	24	60.0	740604	24
CD19	53.6	740604	24	44.7	740604	24
CD20	89.4	741206	24	58.3	740422	24
CD21	39.1	740219	24	33.6	740927	24
CD22	57.6	740807	24	54.5	741006	24
CD23	93.2	741206	24	63.4	741119	24
CD24	68.3	740604	24	57.2	740422	24
CD25	134.8	741030	24	74.4	740222	24
CD26	45.4	741030	24	42.5	740621	24
CD27	35.7	740723	24	24.0	740729	24
CD28	22.2	740723	24	21.9	741030	24
CD29	36.2	740531	24	30.2	740412	24
CD30	31.0	740323	24	28.2	740303	24
CD31					740607	24

WALDEN DIV. OF AHCOB, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD32	43.4	740607	24	39.2	740531	24
CD34	59.2	740531	24	50.0	740303	24
CD35	39.1	740506	24	38.8	740121	24
CD36	63.3	740723	24	56.3	741030	24
CD38	73.9	741120	24	68.6	740723	24
CD39	115.1	741120	24	103.1	740512	24
CD40	133.8	740506	24	126.1	740928	24
CD41	174.3	740515	24	174.3	740422	24
CD42	104.8	740928	24	82.0	740729	24
CD43	131.7	741030	24	101.3	740130	24
CD44	75.7	741206	24	74.8	740927	24
CD45	102.8	740812	24	96.6	741206	24
CD46	97.1	741206	24	87.4	740422	24
CD47	171.8	740827	24	170.7	740817	24
CD49	86.8	741128	24	77.7	740401	24
CD50	56.6	740102	24	52.5	740314	24
CD51	24.0	740227	24	21.6	740312	24
CD52	63.7	741205	24	63.6	740720	24
CD53	82.7	740624	24	68.3	740111	24
CD54	90.0	740110	24	58.2	740120	24
CD55	52.1	741106	24	50.0	740111	24
CD56	70.1	740110	24	58.4	741102	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 174.3 MICROGRAMS PER CUBIC METER, ON 740515 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD41

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 174.3 MICROGRAMS PER CUBIC METER, ON 740422 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD41

WALDEN DIV. OF ABCUR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD57	140.1	740925	3	129.4	740329	6
CD58	151.3	740602	3	144.8	741102	9
CD59	184.5	741206	24	114.3	740927	24
CD60	238.3	741014	3	195.4	741027	24
CD61	260.8	740807	24	250.7	741027	21
CD62	275.7	741030	6	192.1	740130	24
CD63	84.3	740925	3	78.0	741130	3
CD64	164.3	741014	3	157.6	740624	6
CD65	138.6	740814	6	126.8	740926	3
CD66	115.6	740926	6	99.7	740615	6
CD67	217.6	740814	6	198.3	740926	6
CD68	210.2	741014	3	170.3	740624	6
CD69	161.7	740912	6	161.1	740909	6
CD70	124.0	740402	6	63.7	741013	24
CD71	286.8	740402	6	142.8	741013	21
CD72	166.0	740221	21	141.1	740812	3
CD73	178.9	740912	6	166.3	740421	24
CD74	197.9	740806	24	190.5	740807	3
CD75	162.9	740624	3	159.1	741014	24
CD76	61.8	740625	21	53.0	741212	9
CD77	119.5	740530	24	95.2	741029	21
CD78	77.9	740907	21	61.3	740625	21
CD79	213.9	740912	6	192.3	740901	21
CD80	270.1	740807	24	208.1	740806	24
CD81	230.6	741014	3	224.7	740624	3
GR01	138.2	740807	24	110.4	740219	9
GR02	99.7	740807	24	70.9	740219	9
GR03	134.4	741206	24	112.4	741002	3

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR04	106.9	740321	3	90.7	740812	6
GR05	84.3	741211	24	77.9	740604	3
GR06	69.8	740323	3	46.5	740928	6
GR07	52.3	740412	21	52.2	741120	12
GR11	152.2	740221	21	135.2	740126	24
GR12	96.6	740531	3	53.6	740826	3
GR13	113.6	740608	3	90.9	741008	24
GR14	178.3	740402	6	105.4	741013	24
GR15	61.2	740620	21	54.8	740907	21
GR16	173.1	740624	6	147.2	741014	3
GR17	176.9	740615	3	160.6	740402	3
GR18	303.4	740805	24	249.6	741006	6
GR19	220.4	740813	3	208.9	741225	3
LR01	32.3	741104	21	29.5	740303	21
LR02	28.1	740413	24	24.7	740413	24
LR03	30.3	740413	21	27.8	740413	3
LR04	40.4	741014	3	34.5	740603	6
LR05	25.0	740111	12	21.2	740721	21
LR06	17.7	741202	21	16.6	741206	15
MO01	399.9	740704	12	391.5	740521	24
MO02	327.0	740403	6	235.8	740126	21
MO03	304.7	741030	3	153.5	741206	21

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 399.9 MICROGRAMS PER CUBIC METER, ON 740704 AT HOUR 12 FOR
SULFUR DIOXIDE DYER ST.

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 391.5 MICROGRAMS PER CUBIC METER, ON 740521 AT HOUR 15 FOR
SULFUR DIOXIDE DYER ST.

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE					ARITHMETIC MEAN STD. DEV.					GE MEAN	
			5.	10.	20.	40.	60.	80.	100.	150.	200.			
0007	100.0	71.8	44.2	29.8	15.3	5.0	1.8	0.8	0.3	0.0	0.0	9.8	15.0	N/
0008	100.0	65.2	40.8	26.4	13.8	3.6	1.4	0.6	0.3	0.0	0.0	8.7	14.3	N/
0009	100.0	60.1	38.5	23.4	10.5	3.2	1.3	0.5	0.2	0.0	0.0	7.7	13.3	N/
0010	100.0	51.5	38.8	28.4	16.7	6.2	2.8	1.3	0.7	0.0	0.0	9.9	19.0	N/
0011	100.0	76.8	54.2	41.8	26.9	10.1	4.6	2.3	1.1	0.2	0.0	16.8	22.5	N/
0012	100.0	58.8	33.9	24.6	16.9	8.6	4.2	2.3	1.3	0.0	0.0	10.3	22.1	N/
0013	100.0	49.2	24.7	12.5	4.9	0.8	0.3	0.0	0.0	0.0	0.0	4.3	8.0	N/
0014	100.0	49.1	25.3	15.2	6.8	2.2	0.9	0.3	0.1	0.0	0.0	5.2	11.5	N/
0015	100.0	53.3	28.4	17.4	7.8	2.4	0.7	0.2	0.0	0.0	0.0	5.7	11.1	N/
0016	100.0	54.8	30.4	17.7	8.0	2.4	0.5	0.2	0.0	0.0	0.0	5.6	10.7	N/
0017	100.0	56.8	32.2	20.2	9.4	3.4	1.5	0.7	0.3	0.1	0.0	7.1	14.7	N/
0018	100.0	48.1	29.7	19.7	10.0	3.0	1.2	0.5	0.2	0.0	0.0	6.5	13.8	N/
0019	100.0	41.7	26.1	18.7	11.2	4.5	2.1	1.2	0.6	0.0	0.0	7.1	16.6	N/
0020	100.0	28.5	12.3	6.5	3.0	0.7	0.1	0.0	0.0	0.0	0.0	2.4	6.7	N/
0021	100.0	34.1	18.9	13.5	7.2	2.0	0.8	0.2	0.1	0.0	0.0	4.4	11.6	N/
0022	100.0	36.7	24.5	19.1	10.6	3.5	1.3	0.4	0.2	0.0	0.0	9.0	21.6	N/
0023	100.0	36.5	27.3	21.9	16.0	8.6	3.7	2.4	1.2	0.2	0.0	9.2	20.4	N/
0024	100.0	36.3	26.6	20.4	17.5	10.3	6.1	2.9	1.0	0.1	0.0	10.8	23.1	N/
0025	100.0	16.5	10.5	5.8	2.9	0.5	0.0	0.1	0.0	0.0	0.0	1.7	5.3	N/
0026	100.0	19.7	11.5	7.6	1.9	0.3	0.1	0.0	0.0	0.0	0.0	2.2	6.9	N/
0027	100.0	18.2	19.5	19.5	10.5	4.3	2.0	1.3	0.6	0.0	0.0	7.1	17.3	N/
0028	100.0	45.5	27.0	19.1	10.9	6.0	2.3	1.1	0.5	0.1	0.0	7.3	18.2	N/
0029	100.0	47.1	23.2	17.3	11.5	6.0	2.3	1.1	0.7	0.0	0.0	3.9	9.5	N/
0030	100.0	35.8	19.0	11.7	15.2	1.4	0.4	0.1	0.0	0.0	0.0	2.4	6.4	N/
0031	100.0	27.5	16.0	11.1	2.8	1.0	0.1	0.0	0.0	0.0	0.0	2.5	10.1	N/
0032	100.0	20.2	12.9	8.0	3.3	0.7	0.2	0.1	0.0	0.0	0.0	1.2	6.0	N/
0033	100.0	24.9	14.0	11.1	5.3	1.7	0.5	0.2	0.0	0.0	0.0	2.8	17.2	N/
0034	100.0	17.2	9.8	5.8	3.6	0.5	0.2	0.0	0.0	0.0	0.0	1.2	6.0	N/
0035	100.0	14.2	6.8	3.9	1.0	0.1	0.0	0.0	0.0	0.0	0.0	1.4	4.4	N/
0036	100.0	20.6	9.1	4.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	1.2	4.1	N/
0037	100.0	23.9	21.6	13.6	1.0	2.2	0.7	0.2	0.1	0.0	0.0	4.5	11.0	N/
0038	100.0	22.2	21.9	13.8	1.1	0.2	0.0	0.0	0.0	0.0	0.0	1.5	4.6	N/
0039	100.0	32.9	14.6	7.9	3.0	0.8	0.3	0.2	0.0	0.0	0.0	2.8	7.5	N/

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WALDEN DIV. OF ABCUR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2
TABLE

STATION/RECEPTOR	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD.DEV.		GEO MEAN	
	-999.	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.			
GR14	100.0	37.8	20.3	12.3	6.5	2.0	0.7	0.3	0.1	0.0	0.0	4.4	10.9	N/A
GR15	100.0	14.6	7.8	4.1	1.3	0.2	0.0	0.0	0.0	0.0	0.0	1.3	4.6	N/A
GR16	100.0	60.1	39.5	28.3	13.5	4.3	1.5	0.5	0.2	0.0	0.0	8.6	14.6	N/A
GR17	100.0	55.3	34.7	24.0	12.9	4.7	2.2	0.8	0.3	0.0	0.0	8.3	15.8	N/A
GR18	100.0	61.3	42.6	29.4	18.3	7.6	3.8	1.9	1.0	0.2	0.1	11.5	21.3	N/A
GR19	100.0	54.8	34.1	22.7	11.9	4.6	2.4	1.3	0.6	0.2	0.1	16.3	17.9	N/A
ER01	100.0	5.0	0.8	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2	N/A
ER02	100.0	8.2	2.6	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.7	N/A
ER03	100.0	11.4	3.9	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.3	N/A
ER04	100.0	23.3	7.9	2.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.3	3.4	N/A
ER05	100.0	19.8	3.4	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.0	N/A
ER06	100.0	13.4	2.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.6	N/A
ER07	100.0	77.9	58.7	46.1	32.5	19.0	14.0	11.2	9.1	5.4	3.5	30.7	58.0	N/A
ER08	100.0	61.1	39.5	29.8	20.9	13.6	9.2	6.0	3.5	1.0	0.2	16.1	31.2	N/A
ER09	100.0	50.9	25.3	14.3	7.4	3.0	1.7	1.1	0.5	0.1	0.0	6.1	15.5	N/A

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD57	76.2	740110	24	40.3	740120	24
CD58	56.6	740110	24	45.8	740830	24
CD59	44.6	741105	24	31.6	741206	24
CD60	56.2	740625	24	56.0	740624	24
CD61	76.0V	740625	24	56.0	741221	24
CD62	69.7	741030	24	55.5	740130	24
CD63	39.7	740110	24	23.0	740101	24
CD64	30.9	740624	24	26.1	740413	24
CD65	44.3	740110	24	33.1	740830	24
CD66	34.2	740110	24	29.8	740101	24
CD67	53.3	740926	24	47.8	741225	24
CD68	42.7	740624	24	41.2	740413	24
CD69	53.9	740625	24	44.4	740323	24
CD70	18.6	740402	24	16.9	740625	24
CD71	43.7	740402	24	29.4	741013	24
CD72	33.6	740928	24	33.0	740625	24
CD73	66.2	740817	24	54.1	741114	24
CD74	49.3	740709	24	47.8	741005	24
CD75	68.5	740904	24	60.0	740208	24
CD76	28.7	740625	24	15.8	741105	24
CD77	30.6	740625	24	29.2	740530	24
CD78	28.4	740625	24	13.1	741105	24
CD79	48.4	740909	24	40.5	740912	24
CD80	46.5	740219	24	37.8	740807	24
CD81	54.8	740624	24	47.3	740110	24
GR01	27.3	740219	24	22.0	741005	24
GR02	18.0	740219	24	16.1	740807	24
GR03	29.7	740422	24	26.2	741206	24

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR04	24.8	741206	24	22.5	740812	24
GR05	17.5	740213	24	16.3	740604	24
GR06	12.7	740422	24	11.8	740213	24
GR07	17.0	740729	24	14.4	740412	24
GR11	39.2	740126	24	35.0	740403	24
GR12	22.0	740303	24	19.8	740531	24
GR13	23.2	740608	24	22.3	741008	24
GR14	26.4	740402	24	24.1	740121	24
GR15	27.0	740625	24	11.9	740402	24
GR16	37.7	740111	24	34.3	740624	24
GR17	36.2	740105	24	35.1	740930	24
GR18	56.5	741006	24	55.0	741117	24
GR19	49.0	741128	24	48.1	741225	24
LR01	4.8	740303	24	4.0	741104	24
LR02	9.3	740413	24	6.5	740203	24
LR03	12.2	740413	24	8.8	741105	24
LR04	10.4	740406	24	9.9	740208	24
LR05	6.7	740406	24	4.7	740111	24
LR06	4.7	740406	24	4.2	741205	24
MO01	158.2	740723	24	156.3	740617	24
MO02	-92.0	740729	24	86.2	740531	24
MO03	75.8	741030	24	61.5	740621	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 158.2 MICROGRAMS PER CUBIC METER. ON 740723 AT HOUR 24 FOR
SULFUR DIOXIDE OVER ST.

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 156.3 MICROGRAMS PER CUBIC METER. ON 740617 AT HOUR 24 FOR
SULFUR DIOXIDE OVER ST.

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD4B	424.1	740609	9	423.9	740703	15
THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES WAS 424.1 MICROGRAMS PER CUBIC METER, ON 740609 AT HOUR 9 FOR SULFUR DIOXIDE SITE CD4B						
THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES WAS 423.9 MICROGRAMS PER CUBIC METER, ON 740703 AT HOUR 15 FOR SULFUR DIOXIDE SITE CD4B						

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD.DEV. ME	
			5.	10.	20.	40.	60.	80.	100.	150.	200.			
CD4R	100.0	82.8	66.8	54.9	40.8	22.5	15.7	11.5	9.1	5.7	3.3	34.2	57.7	

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WALDEN DIV. OF ARCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD48	232.4	740223	24	202.6	740317	24
THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES WAS 232.4 MICROGRAMS PER CUBIC METER, ON 740223 AT HOUR 24 FOR SULFUR DIOXIDE SITE CD48						
THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES WAS 202.6 MICROGRAMS PER CUBIC METER, ON 740317 AT HOUR 24 FOR SULFUR DIOXIDE SITE CD48						

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	70.0	740126	24	70.7	740221	21
CD2	71.4	740928	24	69.2	741124	9
CD4	85.7	741124	9	79.4	740928	24
CD5	130.8	740503	3	127.6	740509	3
CD7	142.2	740517	3	141.2	740912	6
CD8	263.2	741030	3	150.3	740130	24
CD9	170.9	740130	24	166.9	740130	21
CD10	145.0	740604	3	138.6	741211	24
CD11	283.5	740222	6	149.3	740503	6
CD12	241.4	740222	6	183.5	740604	6
CD13	309.2	741030	3	218.3	740130	24
CD14	270.7	740912	6	201.1	740517	3
CD15	265.3	740509	3	262.6	740503	3
CD16	280.5	740909	6	275.4	740509	3
CD17	347.6	740222	6	230.3	740604	6
CD18	269.6	740222	6	256.2	740323	3
CD19	267.3	740222	6	208.1	740604	6
CD20	382.6	741206	24	257.3	740927	24
CD21	182.4	740219	9	155.3	740807	24
CD22	266.9	740426	3	192.4	740601	24
CD23	358.8	741206	24	263.4	740927	24
CD24	277.0	740222	6	275.0	740323	3
CD25	577.0	741030	3	347.0	740130	24
CD27	160.8	740723	24	137.2	740729	24
CD28	211.4	740723	24	110.4	740221	21
CD29	116.1	740607	24	115.3	740723	24
CD30	176.0	740531	3	101.2	740403	6
CD31	190.3	740129	24	162.2	740509	3

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD32	224.9	740129	24	218.3	740607	24
CD34	291.2	740531	3	142.5	740531	6
CD35	188.1	740530	24	151.5	741029	21
CD36	379.6	740723	24	286.4	740607	24
CD37	330.5	740723	24	308.6	741008	21
CD38	301.9	740907	21	289.2	741120	15
CD40	318.4	740928	24	285.5	740506	21
CD41	422.5	740404	18	406.5	740605	18
CD42	257.7	740812	21	247.1	740421	6
CD43	440.7	741030	3	337.5	740820	24
CD44	402.9	740222	6	365.8	740601	24
CD45	460.8	740321	3	380.2	740812	6
CD46	464.6	741206	24	354.1	740807	24
CD47	470.5	740821	15	449.3	740326	15
CD48	296.8	740813	3	280.4	741225	3
CD50	261.2	740402	3	216.3	741207	3
CD51	141.4	740227	6	115.9	740312	3
CD52	217.9	740227	6	212.9	740721	6
CD54	403.7	741014	3	366.9	740624	3
CD54	319.0	740925	3	267.5	740624	3
CD55	272.3	740907	24	251.3	740623	3
CD56	244.3	740926	6	204.3	740603	6

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 577.0 MICROGRAMS PER CUBIC METER, ON 741030 AT HOUR 3 FOR
SULFUR DIOXIDE SITE CD25

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 449.3 MICROGRAMS PER CUBIC METER, ON 740326 AT HOUR 15 FOR
SULFUR DIOXIDE SITE CD47

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.	ARITHMETIC MEAN STD. DEV.	GEOM MEAN
100.0	100.0	29.8	14.9	7.1	2.4	0.4	0.1	0.0	0.0	0.0	2.4	N/A
100.0	100.0	37.4	17.2	8.9	3.0	0.8	0.1	0.0	0.0	0.0	3.0	N/A
100.0	100.0	36.4	19.5	10.7	4.2	1.0	0.2	0.0	0.0	0.0	3.5	N/A
100.0	100.0	45.0	23.0	12.8	5.6	1.6	0.7	0.0	0.0	0.0	4.5	N/A
100.0	100.0	44.8	24.6	16.0	6.8	2.5	1.0	0.0	0.0	0.0	5.3	N/A
100.0	100.0	54.6	37.3	23.9	12.4	3.4	1.2	0.3	0.1	0.0	7.8	N/A
100.0	100.0	59.7	39.9	26.1	12.9	4.6	1.8	0.4	0.1	0.0	8.6	N/A
100.0	100.0	58.1	39.9	27.0	14.9	5.5	2.2	0.8	0.3	0.0	9.3	N/A
100.0	100.0	50.7	33.5	22.5	11.5	4.8	1.9	0.4	0.0	0.0	10.2	N/A
100.0	100.0	53.2	40.0	29.2	17.1	6.9	2.7	0.5	0.0	0.0	11.5	N/A
100.0	100.0	78.7	53.3	34.2	17.1	5.4	2.4	0.9	0.2	0.1	11.2	N/A
100.0	100.0	76.7	51.0	32.9	16.2	5.3	2.6	1.3	0.7	0.1	12.7	N/A
100.0	100.0	50.7	33.0	22.7	12.5	5.8	2.8	1.5	0.8	0.2	12.4	N/A
100.0	100.0	79.0	50.0	33.2	16.9	7.5	4.0	2.4	1.3	0.3	13.3	N/A
100.0	100.0	77.3	52.2	33.5	17.6	7.5	3.7	1.9	0.9	0.2	13.2	N/A
100.0	100.0	85.4	58.4	40.6	24.3	11.7	5.8	3.1	1.8	0.4	16.3	N/A
100.0	100.0	82.1	54.2	35.3	19.0	8.5	4.4	2.0	1.1	0.2	16.0	N/A
100.0	100.0	70.1	43.8	32.1	20.1	9.8	4.7	2.6	1.3	0.3	17.6	N/A
100.0	100.0	64.0	38.7	25.1	13.2	4.7	2.2	0.9	0.5	0.1	18.8	N/A
100.0	100.0	67.9	43.4	29.6	17.2	7.8	4.0	2.1	1.1	0.3	15.7	N/A
100.0	100.0	77.2	51.2	41.1	27.5	14.0	7.9	3.8	2.1	0.4	16.9	N/A
100.0	100.0	89.4	64.1	51.0	30.4	12.7	6.8	3.4	1.6	0.6	17.6	N/A
100.0	100.0	91.2	59.1	39.2	21.1	9.7	4.8	3.0	1.8	0.3	21.3	N/A
100.0	100.0	67.8	42.2	27.1	13.5	4.1	1.6	0.6	0.2	0.0	24.8	N/A
100.0	100.0	50.4	28.2	16.8	6.9	1.3	0.4	0.2	0.1	0.0	27.8	N/A
100.0	100.0	37.6	20.9	10.5	3.6	0.8	0.3	0.1	0.0	0.0	10.1	N/A
100.0	100.0	50.8	20.9	11.0	3.6	0.8	0.3	0.1	0.0	0.0	5.2	N/A
100.0	100.0	57.1	38.1	28.7	18.3	6.3	2.2	0.8	0.3	0.0	3.4	N/A
100.0	100.0	81.4	54.7	37.6	18.8	5.3	1.8	0.9	0.4	0.0	3.9	N/A
100.0	100.0	78.6	52.7	29.1	12.1	5.2	1.1	0.6	0.1	0.0	10.0	N/A
100.0	100.0	87.0	56.5	36.6	16.1	5.2	1.9	0.8	0.4	0.0	11.8	N/A
100.0	100.0	90.8	66.8	45.6	22.4	7.7	2.8	1.4	0.7	0.1	9.3	N/A
100.0	100.0	93.1	71.7	49.7	29.1	12.1	6.8	3.4	2.0	0.6	11.6	N/A
100.0	100.0	93.7	75.7	57.9	40.1	21.9	14.9	9.5	6.3	2.2	14.8	N/A
100.0	100.0	96.4	75.8	55.2	34.5	20.5	14.6	10.0	6.7	2.4	19.1	N/A
											27.8	N/A
											30.4	N/A
											39.0	N/A
											27.8	N/A

WALDEN DIV. OF ANCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3
TABLE

PERCENT GREATER THAN INDICATED VALUE	5.	10.	20.	40.	60.	80.	100.	150.	200.	ARITHMETIC MEAN STD. DEV.	GEOM MEAN
100.0	90.8	47.0	33.4	22.8	18.1	14.7	11.9	6.8	3.5	35.6	61.3
100.0	87.7	49.7	31.4	16.8	9.3	5.4	2.9	0.7	0.2	21.2	28.9
100.0	85.5	42.3	28.3	18.9	14.5	10.7	7.7	3.2	1.1	26.2	44.7
100.0	89.0	47.4	31.9	18.1	10.9	6.5	3.8	1.2	0.6	22.8	34.7
100.0	81.6	55.2	41.2	26.2	15.6	8.7	5.0	1.3	0.5	28.0	37.7
100.0	89.5	51.0	36.5	21.9	13.8	8.6	5.2	1.6	0.7	26.3	38.3
100.0	85.7	65.2	49.2	30.0	19.1	12.4	9.1	4.5	2.4	38.6	55.1
100.0	84.3	69.7	31.1	16.8	10.3	5.8	3.2	1.0	0.3	21.7	31.4
100.0	79.0	41.3	25.2	11.0	5.5	3.1	1.5	0.4	0.1	16.1	24.3
100.0	70.2	24.6	9.9	2.6	1.0	0.4	0.1	0.0	0.0	7.6	11.9
100.0	63.0	48.3	31.8	16.0	8.6	3.9	2.3	0.4	0.1	19.9	26.8
100.0	86.2	47.1	28.4	14.0	9.0	5.5	3.3	1.1	0.4	20.4	32.2
100.0	88.1	46.4	26.4	11.9	6.0	3.6	1.9	0.3	0.2	17.7	25.2
100.0	81.8	44.0	24.3	9.8	4.9	2.8	1.6	0.4	0.2	16.0	23.7
100.0	89.0	47.6	25.6	9.3	4.4	2.1	1.0	0.2	0.1	16.1	20.9

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WALDEN DIV. OF ADCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	26.2	740323	24	23.6	740126	24
CD2	34.8	740928	24	26.2	740323	24
CD4	32.4	740928	24	32.1	740323	24
CD5	36.5	740323	24	25.5	740126	24
CD7	44.3	740323	24	39.9	741029	24
CD8	66.6	741030	24	46.3	740323	24
CD9	57.8	741030	24	52.9	740130	24
CD10	52.2	740213	24	47.5	740604	24
CD11	46.4	740222	24	39.4	740422	24
CD12	45.7	740604	24	43.1	741005	24
CD13	88.3	741030	24	61.0	740130	24
CD14	60.9	740912	24	56.2	741029	24
CD15	57.7	740911	24	57.4	740323	24
CD16	69.5	740911	24	62.9	740909	24
CD17	56.2	740604	24	54.1	740222	24
CD18	78.0	740912	24	70.5	740323	24
CD19	58.0	740604	24	53.8	740422	24
CD20	94.6	741206	24	61.2	740927	24
CD21	42.2	740219	24	36.8	740105	24
CD22	63.1	740807	24	58.7	741119	24
CD23	102.2	741206	24	69.2	740422	24
CD24	71.6	740604	24	64.2	740213	24
CD25	140.7	741030	24	91.0	740621	24
CD27	51.0	741030	24	46.8	740729	24
CD28	40.1	740723	24	32.6	740323	24
CD29	27.4	740412	24	26.4	740723	24
CD30	37.3	740531	24	35.3	740303	24
CD31	52.3	740323	24	44.6	740607	24

WALDEN DIV. OF ANCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD32	53.8	740607	24	51.5	740723	24
CD34	61.9	740531	24	57.3	740303	24
CD35	44.9	740530	24	42.6	740303	24
CD36	74.7	740723	24	65.3	740607	24
CD38	77.8	741120	24	76.6	740723	24
CD39	116.8	741120	24	112.1	740616	24
CD40	134.5	740506	24	133.7	740928	24
CD41	181.0	740422	24	177.2	740515	24
CD42	115.4	740928	24	94.0	740126	24
CD43	136.2	741030	24	114.0	741029	24
CD44	86.5	741206	24	78.9	740927	24
CD45	107.6	740812	24	105.8	741206	24
CD46	104.5	741206	24	96.0	740422	24
CD47	180.6	740827	24	176.2	740817	24
CD49	92.8	741128	24	81.1	740401	24
CD50	63.0	740102	24	58.4	741018	24
CD51	28.5	740227	24	26.4	740104	24
CD52	74.8	740720	24	71.5	741205	24
CD53	85.9	740624	24	83.4	740208	24
CD54	101.6	740110	24	70.6	740120	24
CD55	60.7	740111	24	57.3	741205	24
CD56	81.0	740110	24	64.8	741102	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 181.0 MICROGRAMS PER CUBIC METER, ON 740422 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD41

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 177.2 MICROGRAMS PER CUBIC METER, ON 740515 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD41

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD57	160.8	740925	3	151.4	740804	24
CD58	163.6	740602	3	152.1	741102	9
CD59	185.9	741206	24	119.4	740927	24
CD60	238.5	741014	3	196.4	741027	24
CD61	264.7	740807	24	252.9	741027	24
CD62	275.9	741030	6	199.7	740130	21
CD63	166.5	741013	3	130.9	740623	3
CD64	164.3	741014	3	157.6	740624	3
CD65	140.5	740814	6	137.9	740926	6
CD66	126.7	741013	3	125.8	740830	6
CD67	218.8	740814	6	202.8	740926	6
CD68	210.2	741014	3	171.1	740624	6
CD69	161.8	740912	6	161.1	740909	6
CD70	137.7	740402	6	64.8	741110	21
CD71	299.0	740402	6	142.8	741013	24
CD72	166.0	740221	21	144.8	740812	21
CD73	178.0	740912	6	166.3	740421	3
CD74	216.8	740806	24	195.2	740807	24
CD75	164.0	740624	3	159.1	741014	3
CD76	98.9	741013	3	81.5	740623	3
CD77	119.5	740530	24	113.4	740806	24
CD78	92.6	740907	21	83.9	740911	6
CD79	213.9	740912	6	193.5	740901	21
CD80	270.1	740807	24	208.1	740806	24
CD81	230.6	741014	3	224.7	740624	3
GR01	140.2	740807	24	120.0	740219	9
GR02	101.4	740807	24	78.2	740219	9
GR03	134.4	741206	24	112.4	741002	3

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 13
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR04	114.9	740321	3	90.7	740812	6
GR05	84.3	741211	24	79.2	740928	6
GR06	81.7	740323	3	56.4	740405	9
GR07	60.3	740412	21	52.2	741120	12
GR11	184.5	740221	21	147.6	740126	24
GR12	96.6	740531	3	59.8	740303	18
GR13	114.1	740608	3	92.1	740509	6
GR14	184.6	740402	6	108.2	741013	24
GR15	79.5	740509	6	67.5	741007	21
GR16	173.1	740624	6	149.0	741014	3
GR17	183.5	740402	3	176.9	740615	3
GR18	305.8	740805	24	249.9	741006	6
GR19	230.3	740813	3	210.5	740908	6
LR01	35.7	740303	21	32.3	741104	21
LR02	34.0	740413	24	31.9	740413	21
LR03	44.3	740413	21	34.7	740413	18
LR04	44.3	740413	9	44.0	740406	12
LR05	30.1	740111	12	24.8	740101	12
LR06	23.7	740406	12	19.8	740406	9
MO01	406.1	740704	12	396.5	740521	15
MO02	361.3	740403	6	255.1	740126	24
MO03	314.7	741030	3	195.5	741029	3

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 436.1 MICROGRAMS PER CUBIC METER, ON 740704 AT HOUR 12 FOR
SULFUR DIOXIDE DYER ST.

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 396.5 MICROGRAMS PER CUBIC METER, ON 740521 AT HOUR 15 FOR
SULFUR DIOXIDE DYER ST.

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO J

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	-999.	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.	ARITHMETIC MEAN STD.DEV.	GEO MEAN
CD57	100.0	89.3	66.0	46.6	26.3	9.8	3.7	1.6	0.7	0.1	0.0	15.7	19.0
CD58	100.0	78.9	56.0	39.9	22.4	7.5	2.8	1.5	0.5	0.1	0.0	13.2	18.1
CD59	100.0	74.7	47.6	29.6	14.6	4.2	1.8	0.6	0.2	0.0	0.0	9.7	14.4
CD60	100.0	66.6	45.3	32.6	19.6	7.2	3.2	1.6	0.8	0.2	0.0	11.8	20.0
CD61	100.0	88.6	63.7	48.0	30.6	12.7	5.5	2.6	1.2	0.4	0.1	17.9	23.6
CD62	100.0	78.0	45.5	29.7	18.4	9.4	4.8	2.5	1.4	0.3	0.0	12.9	22.7
CD63	100.0	59.7	36.1	21.6	10.7	3.4	1.4	0.5	0.1	0.0	0.0	7.4	13.4
CD64	100.0	63.1	39.3	25.4	13.3	4.7	1.8	0.6	0.3	0.1	0.0	8.8	15.3
CD65	100.0	79.4	49.4	29.8	14.0	4.3	1.4	0.4	0.2	0.0	0.0	9.8	13.8
CD66	100.0	66.1	43.0	27.8	13.5	3.8	1.4	0.4	0.2	0.0	0.0	8.7	13.7
CD67	100.0	75.3	46.9	28.3	12.7	4.3	1.8	0.9	0.3	0.1	0.0	9.5	15.6
CD68	100.0	58.8	33.2	22.2	11.0	3.6	1.2	0.6	0.2	0.1	0.0	7.5	14.3
CD69	100.0	55.7	31.4	20.7	12.4	4.8	2.3	0.6	0.7	0.1	0.0	8.1	17.0
CD70	100.0	40.7	17.0	8.5	3.6	0.8	0.1	0.0	0.0	0.0	0.0	3.2	7.3
CD71	100.0	51.1	23.3	15.1	8.3	2.2	0.8	0.2	0.1	0.0	0.0	5.4	12.2
CD72	100.0	52.6	31.3	22.4	12.1	3.8	1.4	0.4	0.2	0.0	0.0	7.4	14.0
CD73	100.0	54.7	32.2	24.7	16.9	9.0	4.5	2.5	0.8	0.2	0.0	10.8	21.7
CD74	100.0	53.9	31.0	21.9	15.3	8.8	4.1	2.2	0.8	0.2	0.0	10.1	21.0
CD75	100.0	52.7	32.1	25.4	18.4	11.1	6.3	3.1	1.2	0.1	0.0	12.0	23.3
CD76	100.0	37.2	23.4	13.8	5.1	1.0	0.2	0.1	0.0	0.0	0.0	4.0	8.3
CD77	100.0	42.6	23.5	14.6	6.3	1.4	0.3	0.2	0.1	0.0	0.0	4.5	9.5
CD78	100.0	37.8	21.4	12.1	4.9	1.1	0.3	0.1	0.0	0.0	0.0	3.8	8.4
CD79	100.0	52.5	30.1	20.0	11.0	4.5	2.1	0.9	0.7	0.3	0.0	7.9	17.2
CD80	100.0	52.9	30.9	20.6	11.5	4.7	2.3	1.2	0.6	0.1	0.1	7.8	17.5
CD81	100.0	34.3	24.1	19.8	13.7	6.4	2.5	1.2	0.7	0.1	0.0	5.1	10.5
CD82	100.0	51.5	26.0	14.7	7.0	1.9	0.6	0.1	0.1	0.0	0.0	3.3	7.1
CD83	100.0	40.9	19.6	9.4	3.6	0.7	0.1	0.0	0.0	0.0	0.0	5.0	11.1
CD84	100.0	37.2	18.3	10.1	4.3	1.0	0.2	0.1	0.0	0.0	0.0	3.4	7.9
CD85	100.0	28.9	15.4	8.3	3.6	0.9	0.1	0.0	0.0	0.0	0.0	2.8	7.2
CD86	100.0	23.1	10.3	5.3	2.0	0.1	0.0	0.0	0.0	0.0	0.0	1.8	5.1
CD87	100.0	28.2	12.1	5.6	1.6	0.2	0.0	0.0	0.0	0.0	0.0	1.9	4.9
CD88	100.0	53.9	33.1	21.0	10.0	3.2	1.2	0.4	0.1	0.0	0.0	6.9	13.1
CD89	100.0	30.2	10.9	5.0	1.6	0.3	0.0	0.0	0.0	0.0	0.0	2.0	5.3
CD90	100.0	45.9	20.3	10.3	3.7	0.9	0.3	0.2	0.0	0.0	0.0	3.7	8.2

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD.DEV.	GEO MEAN
			5.	10.	20.	40.	60.	80.	100.	150.	200.			
BR14	100.0	50.5	25.8	14.6	7.2	2.1	0.8	0.3	0.1	0.0	0.0	5.3	11.4	N/A
BR15	100.0	21.8	11.8	6.3	2.2	0.4	0.1	0.0	0.0	0.0	0.0	2.0	5.0	N/A
BR16	100.0	75.9	52.3	36.9	20.0	6.5	2.6	0.8	0.3	0.0	0.0	11.9	16.8	N/A
BR17	100.0	69.0	44.7	30.6	15.9	6.0	2.9	1.3	0.5	0.1	0.0	10.6	17.5	N/A
BR18	100.0	75.9	53.7	37.5	22.5	9.8	4.9	2.3	1.4	0.2	0.1	14.3	23.0	N/A
BR19	100.0	68.5	43.3	29.1	15.6	5.4	2.8	1.4	0.9	0.2	0.2	10.5	19.1	N/A
BR20	100.0	6.6	1.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.4	N/A
BR21	100.0	10.4	2.7	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.0	N/A
BR22	100.0	15.1	4.7	1.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.6	N/A
BR23	100.0	28.5	10.0	3.6	1.2	0.2	0.0	0.0	0.0	0.0	0.0	1.0	4.1	N/A
BR24	100.0	24.6	4.3	1.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.3	N/A
BR25	100.0	16.9	3.6	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.9	N/A
BR26	100.0	95.2	77.6	62.9	45.6	26.2	16.9	12.8	9.9	6.0	3.9	38.6	59.5	N/A
BR27	100.0	93.3	73.7	56.4	35.2	18.2	11.1	7.1	4.4	1.3	0.2	24.4	32.7	N/A
BR28	100.0	88.6	56.6	34.0	16.4	5.5	2.4	1.4	0.9	0.2	0.0	12.0	18.4	N/A

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD57	80.7	740110	24	54.3	740219	24
CD58	68.5	740110	24	51.9	740111	24
CD59	47.4	741105	24	43.1	740413	24
CD60	62.3	740624	24	59.6	740625	24
CD61	80.7	740625	24	57.4	741221	24
CD62	71.8	741030	24	61.4	740130	24
CD63	55.2	740110	24	43.6	740623	24
CD64	35.3	740413	24	35.1	740406	24
CD65	55.5	740110	24	43.2	740413	24
CD66	48.6	740110	24	42.0	740413	24
CD67	53.9	740926	24	47.9	741225	24
CD68	50.8	740413	24	45.0	740624	24
CD69	57.2	740625	24	44.5	740323	24
CD70	22.0	740402	24	18.5	740625	24
CD71	46.7	740402	24	30.3	740625	24
CD72	35.0	740625	24	34.3	740928	24
CD73	66.3	740817	24	50.3	741114	24
CD74	49.0	740709	24	49.1	741005	24
CD75	70.1	740904	24	61.5	740208	24
CD76	31.1	740625	24	24.3	740623	24
CD77	32.0	740625	24	29.8	740530	24
CD78	30.0	740625	24	20.0	740908	24
CD79	48.5	740909	24	46.5	740912	24
CD80	46.5	740219	24	38.4	740807	24
CD81	54.0	740624	24	52.2	740413	24
GN01	30.1	740219	24	26.3	741005	24
GN02	21.2	740415	24	20.2	740219	24
GN03	33.9	740422	24	29.5	741206	24

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR04	25.5	741206	24	23.9	740305	24
GR05	23.7	740422	24	23.0	740213	24
GR06	18.7	740422	24	14.6	740213	24
GR07	18.2	740412	24	16.1	740729	24
GR11	47.0	740126	24	41.9	740403	24
GR12	26.7	740303	24	20.4	740531	24
GR13	25.0	740509	24	24.7	740627	24
GR14	29.7	740402	24	27.4	740121	24
GR15	28.5	740625	24	14.6	740607	24
GR16	45.7	740111	24	43.8	740101	24
GR17	45.7	740406	24	44.4	740105	24
GR18	59.4	741117	24	59.2	741006	24
GR19	52.9	741128	24	51.5	741225	24
LR01	12.2	740303	24	4.1	741104	24
LR02	16.5	740413	24	8.0	740203	24
LR03	16.6	740413	24	10.1	740203	24
LR04	10.6	740406	24	13.9	740413	24
LR05	10.9	740406	24	5.0	740111	24
LR06	9.9	740406	24	4.4	740101	24
MO01	171.3	740723	24	166.9	740617	24
MO02	95.7	740531	24	95.3	740729	24
MO03	83.1	741030	24	65.7	740621	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 171.3 MICROGRAMS PER CUBIC METER, ON 740723 AT HOUR 24 FOR
SULFUR DIOXIDE DYER ST.

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 166.9 MICROGRAMS PER CUBIC METER, ON 740617 AT HOUR 24 FOR
SULFUR DIOXIDE DYER ST.

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD48	442.6	740600	9	434.4	740703	15
THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES WAS 442.6 MICROGRAMS PER CUBIC METER. ON 740609 AT HOUR 9 FOR SULFUR DIOXIDE SITE CD48						
THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES WAS 434.4 MICROGRAMS PER CUBIC METER. ON 740703 AT HOUR 15 FOR SULFUR DIOXIDE SITE CD48						

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD. DEV. MEAN	GI N
		5.	10.	20.	40.	60.	80.	100.	150.	200.			
CLASH	100.0	95.2	83.6	73.1	57.8	33.3	20.5	14.3	10.7	6.3	3.7	44.1 58.8	N

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WALDEN DIV. OF ABCOR, INC.
PROVIDENCE PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD48	236.4	740223	24	205.4	740317	24
THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES WAS 236.4 MICROGRAMS PER CUBIC METER. ON 740223 AT HOUR 24 FOR SULFUR DIOXIDE SITE CD48						
THE LARGEST OF THE ABOVE SECOND, MAXIMUM 24-HOUR SEQUENTIAL AVERAGES WAS 205.4 MICROGRAMS PER CUBIC METER. ON 740317 AT HOUR 24 FOR SULFUR DIOXIDE SITE CD48						

WALDEN DIV. OF ADCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	154.4	740724	24	123.1	740512	12
CD2	139.2	740724	24	122.1	740929	24
CD4	141.8	740724	24	138.0	740319	6
CD5	184.0	740503	3	178.1	740509	3
CD7	206.9	740913	6	196.8	740517	3
CD8	616.5	741031	3	220.9	740130	24
CD9	237.8	740130	24	234.2	740130	21
CD10	209.1	741212	24	207.1	740605	3
CD11	475.3	740222	6	241.5	740503	6
CD12	361.0	740222	6	291.3	740605	6
CD13	504.2	741031	3	323.1	740130	24
CD14	405.8	740913	6	306.1	740724	24
CD15	354.0	740909	3	340.7	740503	3
CD16	405.6	740910	6	399.6	740509	3
CD17	564.7	740222	6	391.7	740605	6
CD18	430.8	741030	24	416.2	740323	3
CD19	379.8	741030	24	355.2	740222	6
CD20	608.2	741207	24	400.4	740928	24
CD21	564.1	740724	24	322.2	740725	3
CD22	453.4	740724	24	446.6	740426	3
CD23	627.3	741207	24	461.1	740928	24
CD24	469.6	740323	3	366.7	740608	24
CD25	790.6	741031	3	457.5	740130	24
CD27	276.1	740730	24	205.1	741121	12
CD28	376.2	740724	24	160.4	740725	3
CD29	203.5	740608	24	202.7	740724	24
CD30	408.6	740701	3	232.1	740303	18
CD31	324.3	740129	24	254.2	740608	24

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE NAAS RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND	MAX VALUE	DATE	HOUR
CD32	389.0	740129	24		355.4	740724	24
CD34	640.6	740601	3		384.7	741104	21
CD35	364.5	740530	24		292.2	740617	9
CD36	674.6	740724	24		415.2	740608	24
CD38	604.3	740724	24		392.1	741121	15
CD39	530.1	741121	15		508.6	741121	12
CD40	582.6	740929	24		502.4	740126	18
CD41	526.4	741031	12		496.7	741031	3
CD42	460.6	740813	21		382.7	740929	24
CD43	799.0	741031	3		545.4	740130	24
CD44	672.8	740222	6		488.6	741207	24
CD45	759.1	740321	3		625.2	740813	6
CD46	832.6	741207	24		809.3	740928	24
CD47	854.5	740822	15		511.7	740222	18
CD49	535.9	740614	3		414.7	741226	3
CD50	576.2	741104	21		323.0	740402	3
CD51	553.1	740601	3		343.2	740601	6
CD52	379.8	740722	6		563.8	740227	6
CD53	629.8	741015	3		434.8	740625	3
CD54	498.5	740926	3		423.6	740625	3
CD55	464.2	740908	24		400.6	740909	3
CD56	414.0	740601	3			740927	6

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 859.5 MICROGRAMS PER CUBIC METER, ON 740822 AT HOUR 15, FOR
SULFUR DIOXIDE SITE CD47

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 809.3 MICROGRAMS PER CUBIC METER, ON 740222 AT HOUR 18 FOR
SULFUR DIOXIDE SITE CD47

WALDEN DIV. OF ANCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

WALDEN DIV. OF ANCOR, INC. PROVIDENCE NAAQS RESULTS - SCENARIO 1	TABLE NUMBER	PERCENT GREATER THAN INDICATED VALUE	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.	ARITHMETIC MEAN STD. DEV.	GEO MEAN
001	100.0	32.5	20.4	13.9	7.7	2.6	0.9	0.4	0.2	0.0	0.0	0.0	4.7	12.1
002	100.0	39.5	22.3	15.4	8.9	3.5	1.8	0.6	0.3	0.0	0.0	0.0	5.7	13.8
003	100.0	40.7	25.1	17.7	10.3	4.0	2.0	0.7	0.4	0.0	0.0	0.0	6.5	15.0
004	100.0	47.0	28.6	20.3	12.0	5.3	2.7	1.4	0.8	0.1	0.0	0.0	7.9	17.8
005	100.0	48.8	30.9	22.9	13.0	6.0	3.4	1.9	1.0	0.2	0.0	0.0	8.9	19.6
006	100.0	60.6	41.8	29.9	17.6	7.4	3.7	2.0	1.1	0.4	0.1	0.0	11.5	22.7
007	100.0	65.7	45.1	31.3	18.2	8.5	4.8	2.5	1.4	0.4	0.2	0.0	12.6	23.6
008	100.0	66.1	45.5	32.9	20.1	8.9	5.4	2.9	1.8	0.5	0.1	0.0	13.3	23.9
009	100.0	63.7	42.2	30.7	18.5	10.1	5.4	3.4	2.1	0.6	0.2	0.0	15.0	26.3
010	100.0	65.1	47.0	35.2	22.4	10.9	6.4	3.7	2.1	0.7	0.4	0.0	15.5	27.0
011	100.0	82.1	56.9	38.9	22.1	9.2	5.2	2.8	1.6	0.3	0.0	0.0	14.8	28.2
012	100.0	77.6	53.7	36.5	20.9	8.8	5.0	3.0	2.1	0.6	0.2	0.0	12.4	27.1
013	100.0	52.3	36.1	27.2	17.6	9.4	7.1	4.4	3.3	1.4	0.5	0.0	17.0	33.4
014	100.0	78.4	51.1	35.0	21.3	11.7	7.5	4.9	3.6	1.4	0.5	0.0	18.1	33.8
015	100.0	66.6	46.1	37.4	22.0	12.5	10.7	6.9	4.4	1.7	0.7	0.0	22.7	37.9
016	100.0	91.6	61.1	44.5	29.8	16.9	10.7	6.5	4.4	1.2	0.4	0.0	18.9	33.1
017	100.0	89.2	66.9	49.2	34.1	13.1	10.1	6.7	4.1	1.3	0.6	0.0	21.0	37.3
018	100.0	80.8	51.5	39.6	28.6	17.0	10.1	6.7	4.1	1.3	0.6	0.0	16.4	31.1
019	100.0	80.0	51.4	35.7	22.5	10.7	6.5	4.1	3.6	1.4	0.7	0.0	19.8	35.5
020	100.0	81.3	55.4	40.1	27.3	14.9	8.5	5.4	3.6	1.4	0.8	0.0	26.8	42.5
021	100.0	80.4	58.1	47.4	36.3	22.9	14.0	9.2	5.9	1.9	0.8	0.0	25.3	39.5
022	100.0	67.7	48.7	31.4	18.6	13.3	12.5	8.2	5.7	1.9	0.8	0.0	20.5	40.7
023	100.0	50.3	38.9	24.4	13.4	13.3	8.6	5.3	3.9	1.8	0.9	0.0	11.9	22.0
024	100.0	67.3	42.3	29.5	17.4	8.2	4.3	2.4	1.2	0.3	0.1	0.0	17.2	16.6
025	100.0	51.7	30.1	19.5	10.7	3.8	1.7	1.0	0.6	0.1	0.1	0.0	5.2	13.7
026	100.0	39.6	22.2	14.3	7.1	2.5	1.4	0.7	0.3	0.1	0.1	0.0	6.1	17.6
027	100.0	50.4	22.7	13.7	7.1	3.0	1.8	1.2	0.8	0.2	0.1	0.0	11.6	22.3
028	100.0	56.5	38.8	29.8	19.4	8.1	3.7	1.8	1.1	0.2	0.1	0.0	14.1	25.2
029	100.0	60.0	54.1	37.1	20.1	8.3	4.4	2.5	1.7	0.5	0.1	0.0	11.7	26.3
030	100.0	77.9	50.9	29.2	13.4	5.2	3.0	2.0	1.6	0.8	0.3	0.0	14.3	26.5
031	100.0	65.6	45.5	35.8	17.9	7.9	4.8	3.1	2.1	0.7	0.5	0.0	17.8	30.9
032	100.0	90.2	65.6	43.9	23.0	11.1	6.1	3.9	2.2	0.9	0.5	0.0	24.9	42.7
033	100.0	92.3	70.4	49.2	29.9	15.1	10.6	8.1	6.2	2.6	1.1	0.0	38.7	63.9
034	100.0	93.3	73.5	56.9	42.1	16.0	17.9	13.3	10.7	6.5	3.8	0.0	38.7	63.9
035	100.0	96.4	74.9	53.7	35.4	23.6	19.0	15.7	13.4	7.2	3.8	0.0	38.7	64.3

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WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAS RESULTS - SCENARIO 1
TABLE

RECEPTOR	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.	ARITHMETIC MEAN STD.DEV.	GFO MEAN
1001	100.0	92.0	67.9	49.6	35.2	24.7	19.8	16.7	15.3	9.0	41.8	71.1
1002	100.0	87.3	67.7	50.1	32.3	20.0	13.7	9.4	6.4	2.7	26.8	43.5
1003	100.0	90.0	62.9	46.2	30.7	21.1	16.7	13.0	10.2	5.4	32.3	58.6
1004	100.0	91.8	67.7	53.1	37.8	23.7	16.0	11.6	8.1	3.7	31.7	51.5
1005	100.0	90.1	71.0	61.0	47.5	32.2	21.4	13.5	8.6	3.3	37.1	52.6
1006	100.0	92.3	69.9	56.7	40.7	25.7	19.4	14.6	11.3	5.5	36.7	58.5
1007	100.0	96.4	80.6	65.8	50.9	33.0	22.0	16.4	13.4	9.1	54.0	96.8
1008	100.0	91.5	74.2	55.2	36.9	22.2	15.6	11.7	9.2	4.5	32.5	53.0
1009	100.0	87.9	67.7	50.2	33.1	18.8	11.7	8.6	5.6	2.0	25.5	41.5
1010	100.0	81.9	62.2	33.3	19.0	7.2	4.1	2.8	1.6	0.6	13.5	25.8
1011	100.0	89.7	73.3	54.3	37.6	21.1	13.5	9.6	6.5	2.6	28.2	41.6
1012	100.0	91.7	72.8	54.1	34.0	20.1	14.1	11.0	8.7	4.1	30.5	51.5
1013	100.0	93.1	73.7	54.4	35.0	18.5	12.4	8.0	5.4	2.5	26.5	40.6
1014	100.0	88.3	68.1	53.1	33.8	16.9	10.7	6.5	4.5	2.0	24.2	38.1
1015	100.0	92.4	70.1	52.9	33.7	16.8	9.2	5.6	3.5	1.3	22.9	33.5

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAOS RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAOS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
C01	50.7	740512	24	37.2	740414	24
C02	52.3	740929	24	46.9	740512	24
C04	46.9	740929	24	43.7	740512	24
C05	42.4	740617	24	41.5	741125	24
C07	72.8	741030	24	51.2	740617	24
C08	99.5	741031	24	66.3	741030	24
C09	87.0	741031	24	82.1	741030	24
C10	84.9	740605	24	74.8	741030	24
C11	75.9	740222	24	73.6	740605	24
C12	96.0	740605	24	66.2	740821	24
C13	140.2	741031	24	92.4	741030	24
C14	90.0	741030	24	89.2	740913	24
C15	68.6	740509	24	65.0	740910	24
C16	91.6	740910	24	81.4	740912	24
C17	112.9	740605	24	95.0	740222	24
C18	116.4	740605	24	110.1	741030	24
C19	107.8	740605	24	92.6	741030	24
C20	132.9	741207	24	92.4	740928	24
C21	118.0	740724	24	89.8	740219	24
C22	107.3	741120	24	93.3	740808	24
C23	144.7	741207	24	108.7	740724	24
C24	125.4	740605	24	110.2	740213	24
C25	193.9	741031	24	126.5	740622	24
C27	81.3	740730	24	77.5	741031	24
C28	66.4	740724	24	49.0	740608	24
C29	53.4	740608	24	41.3	740724	24
C30	86.0	740303	24	79.6	740601	24
C31	73.0	740608	24	58.1	740724	24

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD32	89.6	740608	24	74.9	740724	24
CD34	125.8	740601	24	124.1	740303	24
CD35	99.8	740303	24	87.5	740617	24
CD36	123.7	740724	24	105.2	740608	24
CD38	137.9	741121	24	105.5	740724	24
CD39	209.8	741121	24	205.1	740617	24
CD40	235.3	740929	24	175.9	740126	24
CD41	215.0	740921	24	193.8	741031	24
CD42	184.1	740929	24	133.9	740126	24
CD43	241.9	741031	24	173.4	740130	24
CD44	126.0	740222	24	125.0	740422	24
CD45	171.5	740813	24	169.8	741207	24
CD46	171.2	741207	24	161.4	740422	24
CD47	320.8	740828	24	315.8	740818	24
CD49	140.7	741129	24	138.3	740401	24
CD50	105.8	740102	24	95.7	740314	24
CD51	110.9	740601	24	65.2	740402	24
CD52	117.1	740721	24	108.3	741206	24
CD53	136.0	740625	24	129.7	740111	24
CD54	163.8	740110	24	109.6	740120	24
CD55	93.2	740111	24	90.1	741107	24
CD56	128.3	740110	24	104.3	740831	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 320.8 MICROGRAMS PER CUBIC METER, ON 740828 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD47

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 315.8 MICROGRAMS PER CUBIC METER, ON 740818 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD47

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD57	313.3	740601	3	240.6	740926	3
CD58	320.5	740617	9	272.3	740603	3
CD59	334.0	741207	24	503.6	740617	9
CD60	325.6	741028	24	265.0	740601	3
CD61	435.9	741028	24	360.3	740629	6
CD62	313.0	741031	6	279.3	740130	24
CD63	266.0	740717	24	209.0	740503	18
CD64	283.3	741015	3	283.3	740403	6
CD65	263.2	740403	6	255.6	740815	6
CD66	277.8	740509	6	192.2	740927	6
CD67	400.0	740815	6	323.3	740927	6
CD68	385.2	741015	3	310.8	740626	6
CD69	296.5	740913	6	294.9	740910	6
CD70	200.6	740402	6	199.5	740403	6
CD71	546.3	740402	6	265.2	741014	24
CD72	271.2	740221	21	230.9	740813	21
CD73	293.9	740913	6	278.5	740421	3
CD74	345.2	740607	24	315.4	740808	24
CD75	269.2	740625	3	259.9	741015	3
CD76	157.0	740426	24	121.5	740121	9
CD77	193.2	740530	24	173.0	740503	18
CD78	136.9	740908	21	133.3	740609	3
CD79	392.1	740913	6	353.6	740902	21
CD80	495.2	740808	24	381.5	740807	24
CD81	422.7	741015	3	411.7	740625	3
GR01	307.1	740820	21	259.7	740730	24
GR02	399.7	740512	18	362.3	740511	21
GR03	265.3	740615	24	225.5	741207	24

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAS RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR04	312.4	740813	21	227.8	741124	9
GR05	152.9	740325	21	143.0	740615	24
GR06	182.2	741104	24	149.2	740813	21
GR07	166.2	740724	24	135.7	740512	15
GR11	338.6	740221	21	299.1	740129	24
GR12	209.1	740303	18	202.2	740601	3
GR13	203.0	740609	3	169.1	740121	18
GR14	287.0	740402	6	244.9	740617	9
GR15	204.4	740609	3	178.8	740503	18
GR16	357.5	740617	9	275.9	740625	6
GR17	680.5	741104	21	311.0	740616	3
GR18	555.2	740806	24	456.2	741007	6
GR19	410.9	740814	3	382.6	741226	3
LR01	156.3	741104	21	84.7	740303	21
LR02	121.6	740629	6	99.0	740409	9
LR03	156.5	740402	6	139.2	740530	9
LR04	313.4	741028	24	286.8	740527	18
LR05	489.2	740927	6	445.0	740927	3
LR06	203.3	740111	6	176.2	740603	24
MO01	738.3	740705	12	722.0	740521	15
MO02	448.4	740126	24	404.4	740517	6
MO03	437.1	741031	3	337.4	740724	24

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 738.3 MICROGRAMS PER CUBIC METER, ON 740705 AT HOUR 12 FOR
SULFUR DIOXIDE DYER ST.

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 722.0 MICROGRAMS PER CUBIC METER, ON 740521 AT HOUR 15 FOR
SULFUR DIOXIDE DYER ST.

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE					ARITHMETIC MEAN STD.DEV. MEAN					GEC	
			5.	10.	20.	40.	60.	80.	100.	150.	200.			
CD57	100.0	93.2	70.4	51.6	33.4	17.5	10.1	5.9	3.6	1.1	0.1	22.7	31.1	N/A
CD58	100.0	80.5	60.7	46.5	30.5	16.5	7.7	3.7	2.3	0.6	0.3	19.7	28.9	N/A
CD59	100.0	76.5	50.5	35.2	20.9	9.8	5.5	3.3	1.9	0.6	0.1	14.6	25.4	N/A
CD60	100.0	66.3	49.3	37.4	23.9	11.8	6.5	3.6	2.2	1.0	0.3	16.0	28.6	N/A
CD61	100.0	89.1	67.2	50.7	33.2	15.2	9.1	5.7	3.8	1.4	0.6	22.4	34.5	N/A
CD62	100.0	76.8	45.2	30.2	20.7	12.7	8.3	5.6	3.3	1.2	0.4	16.5	32.0	N/A
CD63	100.0	70.7	46.0	31.2	17.9	7.6	3.4	1.5	1.1	0.2	0.1	11.8	20.3	N/A
CD64	100.0	73.5	49.1	33.4	20.1	9.5	4.7	2.5	1.5	0.4	0.2	13.7	24.5	N/A
CD65	100.0	85.1	56.0	36.5	20.9	9.1	4.6	2.5	1.1	0.2	0.1	14.2	22.0	N/A
CD66	100.0	72.7	51.5	36.9	21.2	9.5	4.7	2.2	1.1	0.3	0.0	13.8	22.1	N/A
CD67	100.0	80.2	55.1	36.3	21.0	9.5	5.4	3.3	2.0	0.6	0.3	15.1	27.2	N/A
CD68	100.0	63.1	42.5	31.6	20.1	10.2	4.8	2.6	1.6	0.6	0.2	13.4	26.2	N/A
CD69	100.0	56.9	36.3	27.6	19.6	10.7	6.1	3.7	2.4	1.0	0.5	13.8	30.1	N/A
CD70	100.0	41.7	21.4	12.8	7.0	3.1	1.4	0.6	0.2	0.1	0.0	5.2	13.3	N/A
CD71	100.0	53.0	27.8	20.2	13.8	7.1	3.5	2.0	1.2	0.3	0.1	9.4	23.2	N/A
CD72	100.0	53.3	35.5	28.5	20.0	9.5	4.6	2.5	1.4	0.3	0.1	12.0	23.3	N/A
CD73	100.0	55.0	37.9	30.8	23.2	15.0	9.6	6.1	4.1	1.0	0.4	17.5	35.0	N/A
CD74	100.0	59.1	39.0	29.8	21.8	14.5	9.9	5.9	3.8	1.3	0.4	16.9	34.1	N/A
CD75	100.0	56.7	38.2	30.4	23.8	16.8	12.1	8.7	5.8	1.4	0.4	19.3	37.1	N/A
CD76	100.0	38.0	25.3	17.6	9.3	3.2	1.4	0.7	0.2	0.0	0.0	5.9	13.4	N/A
CD77	100.0	43.6	27.2	19.0	11.1	3.9	1.6	0.6	0.3	0.1	0.0	6.8	15.2	N/A
CD78	100.0	61.7	40.0	30.7	21.5	11.7	6.5	4.4	2.6	0.9	0.5	15.1	32.2	N/A
CD79	100.0	61.8	41.7	31.7	21.5	12.0	7.2	4.5	3.2	1.4	0.5	15.9	33.4	N/A
CD80	100.0	41.3	30.9	26.6	17.2	9.0	5.4	3.3	2.0	0.6	0.3	13.3	35.2	N/A
CD81	100.0	70.3	42.9	29.5	18.6	11.0	7.1	4.9	3.4	1.6	0.7	15.8	34.9	N/A
CD82	100.0	66.2	39.7	28.8	18.7	9.2	5.4	2.9	1.6	0.3	0.1	12.6	24.2	N/A
CD83	100.0	61.3	36.8	27.3	17.2	9.0	4.7	2.5	1.4	0.3	0.1	11.6	23.1	N/A
CD84	100.0	41.8	27.2	19.5	12.2	5.5	2.7	1.1	0.6	0.0	0.0	7.7	17.2	N/A
CD85	100.0	43.0	26.3	18.8	11.0	4.9	2.1	1.0	0.4	0.0	0.0	7.1	16.1	N/A
CD86	100.0	29.9	17.7	11.7	6.6	2.3	0.8	0.3	0.2	0.0	0.0	4.1	11.3	N/A
CD87	100.0	54.3	34.6	25.4	15.4	7.2	3.9	2.3	1.2	0.4	0.1	10.6	23.1	N/A
CD88	100.0	32.7	15.5	8.5	4.2	2.1	1.2	0.7	0.3	0.1	0.0	3.8	12.9	N/A
CD89	100.0	40.1	25.5	15.4	8.3	3.0	1.8	1.1	0.6	0.2	0.0	6.3	15.9	N/A

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAASUS RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	-999.	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.	ARITHMETIC MEAN STD.DEV.	GE MEAN
GR14	100.0	50.9	31.3	21.5	13.1	6.4	3.3	1.7	0.9	0.2	0.1	9.0	20.1
GR15	100.0	23.0	14.7	10.5	6.2	2.2	0.9	0.4	0.2	0.1	0.0	3.8	12.8
GR16	100.0	84.1	60.7	46.2	30.4	14.3	7.3	4.4	2.3	0.6	0.2	19.1	27.8
GR17	100.0	80.7	55.2	39.3	25.2	12.8	7.8	4.8	3.1	0.9	0.3	18.0	32.3
GR18	100.0	85.9	62.9	45.8	29.6	16.2	9.8	6.4	4.5	1.8	0.6	22.3	38.2
GR19	100.0	82.2	53.8	38.4	23.8	10.9	6.8	4.5	3.2	1.2	0.5	17.5	32.8
LR01	100.0	9.7	3.3	1.9	1.0	0.3	0.1	0.1	0.0	0.0	0.0	0.8	4.9
LR02	100.0	17.2	10.0	6.7	3.6	1.7	0.7	0.3	0.0	0.0	0.0	2.5	9.4
LR03	100.0	22.3	12.5	7.5	4.2	2.2	1.3	0.4	0.1	0.0	0.0	3.2	11.3
LR04	100.0	40.2	20.9	13.3	7.7	4.4	2.8	1.9	1.0	0.5	0.2	6.0	21.2
LR05	100.0	39.8	18.6	12.3	8.6	5.7	3.6	2.4	2.1	1.0	0.4	8.0	27.8
LR06	100.0	29.7	14.7	11.1	7.8	4.9	2.8	2.0	0.9	0.2	0.0	5.7	18.1
MD01	100.0	95.0	77.5	63.6	47.3	29.4	19.7	14.8	12.5	10.1	8.2	55.6	106.1
MD02	100.0	92.8	72.4	55.6	36.0	21.7	15.5	11.8	9.8	5.8	2.6	33.2	54.5
MD03	100.0	88.6	57.7	37.9	21.3	9.8	5.3	3.2	2.1	0.8	0.4	15.9	28.2

WALDEN DIV. OF ADCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD57	128.1	740110	24	93.8	740617	24
CD58	174.9	740110	24	96.2	740831	24
CD59	175.2	741106	24	72.5	740617	24
CD60	93.8	740626	24	75.7	741029	24
CD61	135.6	740626	24	83.3	741029	24
CD62	129.1	740121	24	84.3	740130	24
CD63	178.7	740110	24	48.0	741009	24
CD64	55.0	741025	24	54.1	740625	24
CD65	82.3	740110	24	71.3	740831	24
CD66	66.2	740110	24	55.2	740101	24
CD67	87.7	740927	24	85.5	740815	24
CD68	80.8	740625	24	71.4	740413	24
CD69	82.7	740626	24	80.4	740323	24
CD70	43.7	740506	24	41.3	740510	24
CD71	86.5	740402	24	54.2	741014	24
CD72	59.2	740626	24	53.0	740929	24
CD73	101.8	740618	24	88.1	741115	24
CD74	79.8	740710	24	77.9	741006	24
CD75	106.7	740905	24	102.0	741215	24
CD76	50.9	740626	24	47.1	741216	24
CD77	58.5	740530	24	53.1	740626	24
CD78	41.7	740626	24	37.2	740303	24
CD79	88.8	740910	24	85.3	740913	24
CD80	85.3	740219	24	69.6	740808	24
CD81	108.1	741201	24	107.2	740625	24
GR01	196.7	740730	24	86.1	740617	24
GR02	119.8	740929	24	117.6	740512	24
GR03	85.3	740615	24	68.0	740601	24

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE MAASUS RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR04	104.0	740813	24	68.7	740929	24
GR05	63.9	740601	24	62.1	740605	24
GR06	69.3	740929	24	38.2	740316	24
GR07	42.9	740412	24	42.6	740724	24
GR11	81.6	740403	24	68.9	740126	24
GR12	68.9	740303	24	41.7	740601	24
GR13	59.6	740121	24	58.1	740303	24
GR14	65.1	740121	24	64.4	740617	24
GR15	40.3	740626	24	37.8	740629	24
GR16	80.8	740617	24	69.1	740111	24
GR17	87.8	741104	24	76.3	740616	24
GR18	100.9	741007	24	94.5	740623	24
GR19	85.8	741129	24	84.8	741226	24
LR01	20.0	741104	24	18.0	740303	24
LR02	31.7	740810	24	31.7	741112	24
LR03	38.0	741112	24	27.9	741202	24
LR04	67.3	741017	24	62.8	740530	24
LR05	120.0	740927	24	114.6	740203	24
LR06	73.2	740203	24	57.4	740903	24
MO01	302.1	740618	24	295.6	740601	24
MO02	176.0	740601	24	171.6	740730	24
MO03	125.7	741031	24	98.3	740622	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 302.1 MICROGRAMS PER CUBIC METER, ON 740601 AT HOUR 24 FOR
SULFUR DIOXIDE DYER ST.

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 295.6 MICROGRAMS PER CUBIC METER, ON 740601 AT HOUR 24 FOR
SULFUR DIOXIDE DYER ST.

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD4B	791.4	740610	9	785.4	740704	15
THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES WAS 791.4 MICROGRAMS PER CUBIC METER, ON 740610 AT HOUR 9 FOR SULFUR DIOXIDE SITE CD4B						
THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES WAS 785.4 MICROGRAMS PER CUBIC METER, ON 740704 AT HOUR 15 FOR SULFUR DIOXIDE SITE CD4B						

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAOS RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE NAAOS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	PERCENT GREATER THAN INDICATED VALUE											ARITHMETIC MEAN STD. DEV. MEA	G N
	-999.	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.		
C04H	100.0	97.8	87.8	76.8	60.9	38.8	26.4	19.4	15.6	10.7	8.0	64.5	104.5

1 OF 1

WALDEN DIV. OF ARBOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD48	428.2	740223	24	373.3	740317	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 428.2 MICROGRAMS PER CUBIC METER, ON 740223 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD48

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 373.3 MICROGRAMS PER CUBIC METER, ON 740317 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD48

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
C01	157.7	740724	24	134.2	740126	24
C02	140.4	740724	24	130.8	740929	24
C04	145.6	740929	24	145.4	740319	6
C05	205.1	740929	3	205.1	740509	3
C07	258.2	740913	6	233.6	740517	3
C08	473.0	741031	3	260.4	741207	21
C09	277.4	741031	6	269.6	740130	21
C010	253.9	741212	24	252.3	740605	3
C011	502.3	740222	6	263.8	740503	6
C012	426.1	740222	6	333.4	740605	6
C013	562.2	741031	3	380.5	740130	24
C014	493.9	740913	6	343.6	740517	3
C015	406.7	740509	3	373.5	740503	3
C016	512.5	740910	6	474.2	740509	3
C017	619.3	740222	6	419.1	740605	6
C018	484.4	740222	6	451.6	741030	24
C019	478.0	740222	6	402.8	741030	24
C020	701.4	741207	24	471.6	740928	24
C021	564.1	740724	24	345.6	740725	3
C022	469.4	740426	3	453.4	740724	24
C023	657.7	741207	24	482.9	740928	24
C024	495.0	740722	6	479.9	740323	3
C025	1051.3	741031	3	611.7	740130	24
C027	283.4	740730	24	280.1	740724	24
C028	378.5	740724	24	167.7	740221	21
C029	207.0	740724	24	204.5	740608	24
C030	410.0	740601	3	232.3	740303	16
C031	329.1	740129	24	271.0	741104	21

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 2
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD32	402.1	740129	24	398.5	740608	24
CD34	640.6	740601	3	403.7	741104	21
CD35	368.9	740530	24	296.8	741104	21
CD36	674.6	740724	24	488.6	740608	24
CD38	604.3	740724	24	574.5	741009	21
CD39	544.5	740908	21	530.1	741121	15
CD40	582.8	740929	24	523.5	740506	21
CD41	773.2	740404	18	745.2	740606	18
CD42	471.9	740913	21	443.0	740421	6
CD43	800.8	741031	3	594.8	740821	24
CD44	692.4	740222	6	661.3	740602	24
CD45	806.4	740321	3	694.0	740813	6
CD46	851.9	741207	24	641.1	740808	24
CD47	859.5	740822	15	809.3	740222	18
CD49	536.1	740814	3	512.6	741226	3
CD50	576.2	741104	21	429.4	740402	3
CD51	553.1	740601	3	323.0	740601	6
CD52	385.6	740722	6	343.6	740227	6
CD53	735.9	741015	3	666.7	740625	3
CD54	574.4	740926	3	487.2	740625	3
CD55	494.5	740908	24	438.0	740909	3
CD56	434.2	740927	6	414.0	740601	3

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 1051.3 MICROGRAMS PER CUBIC METER, ON 741031 AT HOUR 3 FOR
SULFUR DIOXIDE SITE CD25

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 809.3 MICROGRAMS PER CUBIC METER, ON 740222 AT HOUR 18 FOR
SULFUR DIOXIDE SITE CD47

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE NAAOS RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE NAAOS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CURIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD.DEV.	GEO MEAN
	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.		
001	100.0	32.9	21.7	15.4	8.8	3.1	1.3	0.4	0.2	0.0	5.2	13.0
002	100.0	39.7	24.1	17.5	10.3	4.0	2.1	0.8	0.3	0.0	6.4	14.9
003	100.0	40.8	26.9	19.6	11.7	4.7	2.4	1.1	0.4	0.0	7.2	16.3
004	100.0	47.3	30.2	22.5	13.7	6.1	3.3	1.8	1.0	0.1	8.9	19.7
005	100.0	49.3	32.7	24.7	16.2	6.9	4.4	2.4	1.4	0.3	10.3	22.3
006	100.0	61.2	45.1	34.1	21.0	9.6	4.9	2.7	1.5	0.3	13.6	25.8
007	100.0	66.9	48.7	35.1	21.1	10.1	5.9	3.4	2.0	0.5	14.6	26.6
008	100.0	68.1	48.5	36.0	22.5	10.1	6.1	3.6	2.2	0.7	15.1	26.6
009	100.0	65.5	44.8	33.6	20.8	11.5	6.7	4.4	2.4	0.8	16.8	29.9
010	100.0	67.4	49.8	38.2	24.6	12.7	7.4	4.8	2.7	0.9	18.2	32.2
011	100.0	84.1	61.6	44.6	26.1	11.4	6.4	3.5	2.4	0.5	19.6	30.4
012	100.0	79.2	58.3	42.4	25.7	10.9	6.0	3.7	2.6	0.8	20.8	37.8
013	100.0	53.5	39.5	30.1	20.5	10.5	6.2	3.7	2.6	1.2	21.8	37.8
014	100.0	79.6	55.3	39.1	24.0	14.1	8.2	5.3	3.8	1.8	26.4	44.3
015	100.0	87.5	60.1	40.6	24.7	14.3	9.7	6.4	4.6	1.7	21.8	43.9
016	100.0	92.0	63.8	46.9	32.7	19.4	13.3	8.9	6.2	2.5	18.8	33.2
017	100.0	90.2	59.8	42.7	26.9	15.7	10.7	6.8	4.8	1.7	20.8	37.8
018	100.0	81.6	53.0	41.1	30.6	20.1	13.0	9.9	5.8	0.8	24.6	43.9
019	100.0	80.4	54.4	39.5	26.7	13.8	8.0	5.1	3.4	1.1	22.9	40.0
020	100.0	81.7	56.7	42.7	29.9	17.6	11.3	7.1	4.7	2.1	31.7	49.5
021	100.0	87.0	59.0	48.6	38.8	26.9	18.2	12.3	8.9	3.2	30.8	46.6
022	100.0	91.9	71.3	56.8	37.4	22.7	15.6	11.3	8.2	1.3	24.3	50.2
023	100.0	91.6	63.6	44.7	28.0	15.5	10.2	7.3	4.9	2.5	14.3	25.0
024	100.0	68.2	46.5	34.4	21.6	10.5	5.6	3.0	1.8	0.4	8.6	18.7
025	100.0	52.3	32.2	23.2	13.8	5.3	2.3	1.2	0.7	0.2	6.0	14.9
026	100.0	40.1	24.7	16.4	9.3	3.1	1.6	0.9	0.4	0.1	7.1	19.0
027	100.0	57.2	40.0	32.5	23.5	12.7	6.4	3.4	2.0	0.5	14.7	27.3
028	100.0	81.6	59.1	45.2	27.5	12.7	6.3	3.6	2.1	0.8	17.9	29.1
029	100.0	79.8	59.7	41.0	22.8	18.7	4.5	2.8	1.9	0.3	15.7	28.7
030	100.0	86.8	65.0	46.2	26.6	12.2	7.3	4.7	3.0	0.9	18.9	30.3
031	100.0	91.7	70.6	49.5	29.2	14.1	8.2	5.1	3.0	1.1	21.1	34.4
032	100.0	94.1	74.8	55.9	36.3	20.2	13.6	10.0	7.2	3.0	29.7	47.8
033	100.0	95.1	78.1	62.9	48.4	32.2	23.6	18.6	15.1	4.9	47.7	71.1
034	100.0	97.5	78.4	58.3	40.4	26.9	21.3	18.1	15.6	5.3	45.3	72.7

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE NAAS RESULTS - SCENARIO 2
TABLE

PERCENT GREATER THAN INDICATED VALUE	5.	10.	20.	40.	60.	80.	100.	150.	200.	ARITHMETIC MEAN STD.DEV.	GEOI MEAN
100.0	92.8	100.0	38.5	28.1	23.7	20.5	18.3	13.9	10.6	60.6	111.3
100.0	88.0	100.0	35.9	23.5	17.3	12.6	9.8	3.9	1.5	31.7	49.8
100.0	91.2	100.0	34.5	24.2	20.7	17.5	15.2	10.1	6.1	44.4	80.5
100.0	92.3	100.0	42.3	29.8	22.0	16.8	12.6	5.6	2.9	40.1	62.9
100.0	90.2	100.0	47.7	33.4	25.7	19.6	14.2	7.7	3.6	50.7	67.4
100.0	92.8	100.0	60.1	47.3	31.0	23.3	18.5	7.6	3.9	46.1	68.5
100.0	97.5	100.0	73.2	62.2	42.4	31.5	23.3	11.0	7.2	64.4	99.1
100.0	91.7	100.0	62.8	44.2	31.5	23.3	18.5	5.1	2.4	37.6	55.6
100.0	91.3	100.0	56.0	37.7	26.7	19.1	13.6	2.3	1.0	28.4	43.3
100.0	92.2	100.0	43.1	24.8	15.9	11.1	7.3	0.7	0.3	15.3	26.9
100.0	90.0	100.0	40.4	23.9	16.2	12.3	9.8	3.2	1.4	31.9	44.2
100.0	93.6	100.0	62.8	41.9	22.4	14.6	6.5	4.7	2.2	35.1	56.5
100.0	89.0	100.0	59.0	39.0	20.1	12.3	5.3	3.0	1.2	30.9	44.6
100.0	93.3	100.0	59.2	39.3	19.7	10.7	4.2	2.6	1.1	27.8	41.4
								1.5	0.6	26.2	35.8

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
C01	52.5	740512	24	39.7	740414	24
C02	57.6	740929	24	46.7	740512	24
C04	52.7	740929	24	45.4	740512	24
C05	47.6	740323	24	45.0	741125	24
C07	79.7	741030	24	59.0	740821	24
C08	115.2	741031	24	73.1	741030	24
C09	98.9	741031	24	87.3	741030	24
C10	98.2	740605	24	88.1	740213	24
C11	82.5	740222	24	81.9	740605	24
C12	106.8	740605	24	72.2	740621	24
C13	163.9	741031	24	109.1	740130	24
C14	107.3	740913	24	102.2	741030	24
C15	79.7	740509	24	76.6	740910	24
C16	108.8	740910	24	92.9	740912	24
C17	122.9	740605	24	107.3	740222	24
C18	133.5	740605	24	129.9	740913	24
C19	122.4	740605	24	107.2	741030	24
C20	169.4	741207	24	109.3	740928	24
C21	118.4	740724	24	92.6	740219	24
C22	121.3	741120	24	110.2	740808	24
C23	179.4	741207	24	121.1	740422	24
C24	143.9	740605	24	119.5	740213	24
C25	255.1	741031	24	150.3	740622	24
C27	94.1	741031	24	85.7	740730	24
C28	69.2	740724	24	53.0	741031	24
C29	54.6	740608	24	45.6	740412	24
C30	90.0	740303	24	83.4	740601	24
C031	74.8	740608	24	74.5	740323	24

WALDEN DIV. OF AIRCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 2
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD32	97.9	740608	24	84.4	740601	24
CD34	130.0	740601	24	129.1	740303	24
CD36	101.5	740503	24	88.6	740617	24
CD38	125.5	740724	24	117.0	740608	24
CD39	138.8	741121	24	132.5	740724	24
CD40	212.5	741121	24	205.1	740617	24
CD41	256.5	740506	24	237.5	740929	24
CD42	325.2	740422	24	322.0	740515	24
CD43	201.0	740629	24	161.4	740730	24
CD44	251.9	741031	24	203.9	740130	24
CD45	149.0	741207	24	140.5	740928	24
CD46	194.5	740813	24	185.5	741207	24
CD47	185.1	741207	24	167.4	740422	24
CD48	322.4	740828	24	317.5	740818	24
CD49	164.2	741129	24	145.2	740401	24
CD50	109.1	740102	24	101.2	740314	24
CD51	110.9	740601	24	68.6	740402	24
CD52	127.8	741206	24	126.0	740721	24
CD53	155.1	740625	24	138.4	740208	24
CD54	174.8	740110	24	121.3	740120	24
CD55	100.6	740111	24	90.8	741107	24
CD56	137.7	740110	24	112.8	740831	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 325.2 MICROGRAMS PER CUBIC METER, ON 740422 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD41

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 322.0 MICROGRAMS PER CUBIC METER, ON 740515 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD41

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD57	313.3	740601	3	274.0	740926	3
CD58	320.5	740617	9	287.7	740603	3
CD59	339.4	741207	24	303.6	740617	9
CD60	437.0	741015	3	360.2	741026	24
CD61	481.5	740608	24	453.4	741028	24
CD62	505.7	741031	6	389.1	740130	24
CD63	266.0	740717	24	209.0	740503	18
CD64	301.2	741015	3	286.9	740625	6
CD65	263.2	740403	6	211.9	740815	6
CD66	277.6	740509	6	367.3	740927	6
CD67	400.0	740815	6	312.9	740625	6
CD68	365.3	741015	3	295.4	740910	6
CD69	296.5	740913	6	199.5	740403	6
CD70	240.2	740402	6	265.2	741014	24
CD71	546.3	740402	6	261.7	740813	21
CD72	304.3	740221	21	304.9	740421	3
CD73	326.3	740913	6	353.1	740808	24
CD74	378.5	740807	24	291.6	741016	3
CD75	299.5	740625	3	125.3	740121	9
CD76	164.4	740426	24	174.6	741030	21
CD77	219.0	740530	24	146.7	740609	3
CD78	155.1	740908	21	353.6	740902	21
CD79	392.1	740913	6	381.5	740607	24
CD80	495.2	740808	24	411.9	740625	3
CD81	422.7	741015	3	258.7	740730	24
GR01	307.1	740620	21	362.3	740511	21
GR02	399.7	740512	18	259.8	741207	24
GR03	271.6	740615	24			

WALDEN DIV. OF ABCUR, INC.
PROVIDENCE NAAS RESULTS - SCENARIO 2
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR04	312.4	740813	21	227.8	741124	9
GR05	157.7	740325	21	154.6	741212	24
GR06	182.2	741104	24	149.2	740813	21
GR07	173.1	740724	24	137.6	740512	15
GR11	348.7	740221	21	322.9	740129	24
GR12	240.0	740601	3	212.9	740303	18
GR13	213.1	740609	3	193.0	740601	3
GR14	332.6	740402	6	244.9	740617	9
GR15	221.9	740609	3	180.0	740503	18
GR16	357.5	740617	9	317.4	740625	6
GR17	680.5	741104	21	324.2	740616	3
GR18	558.3	740806	24	457.9	741007	6
GR19	412.2	740814	3	384.0	741226	3
LR01	156.3	741104	21	89.0	740303	21
LR02	121.6	740629	6	99.0	740409	9
LR03	156.5	740402	6	139.2	740530	18
LR04	313.4	741028	24	285.8	740527	3
LR05	489.2	740927	6	445.0	740927	3
LR06	203.3	740111	6	176.2	740603	24
MO01	738.3	740705	12	722.0	740521	15
MO02	628.1	740403	6	446.4	740126	24
MO03	567.0	741031	3	337.4	740724	24

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 738.3 MICROGRAMS PER CUBIC METER, ON 740705 AT HOUR 12 FOR
SULFUR DIOXIDE DYER ST.

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 722.0 MICROGRAMS PER CUBIC METER, ON 740521 AT HOUR 15 FOR
SULFUR DIOXIDE DYER ST.

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE NAAS RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE NAAS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	-999.	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.	ARITHMETIC MEAN STD.DEV.	GEOM. MEAN
CD57	100.0	93.9	76.3	57.5	38.3	19.7	11.1	6.5	3.9	1.4	0.3	25.2	32.5
CD58	100.0	81.8	64.4	50.3	34.2	18.0	8.8	4.6	2.6	0.7	0.3	21.7	30.5
CD59	100.0	77.6	57.7	42.4	26.5	12.3	6.9	4.0	2.4	0.7	0.1	17.6	27.9
CD60	100.0	67.0	51.2	42.7	31.0	18.0	10.1	6.6	3.9	1.6	0.6	21.5	37.4
CD61	100.0	91.2	72.0	59.2	44.7	28.1	16.6	10.6	6.8	2.5	1.0	32.2	43.6
CD62	100.0	79.3	52.5	37.6	26.1	17.2	12.3	9.1	6.2	2.7	1.1	23.3	43.6
CD63	100.0	71.3	47.8	33.3	19.5	8.3	3.8	1.9	1.1	0.3	0.1	12.7	21.4
CD64	100.0	74.9	51.2	35.7	22.1	10.4	5.2	2.9	1.8	0.6	0.3	14.8	25.9
CD65	100.0	85.8	59.2	39.5	23.3	10.3	5.3	2.9	1.4	0.2	0.1	15.6	23.3
CD66	100.0	73.1	53.1	39.6	23.2	10.6	5.5	2.6	1.3	0.3	0.1	14.9	23.4
CD67	100.0	61.3	58.7	39.8	23.6	10.6	6.1	3.7	2.1	0.7	0.3	16.5	28.4
CD68	100.0	63.6	43.8	33.0	22.0	11.0	5.5	2.8	1.9	0.6	0.3	14.3	27.0
CD69	100.0	58.4	38.5	29.7	20.8	12.0	6.9	4.3	2.9	1.3	0.6	15.2	32.1
CD70	100.0	42.5	23.4	14.6	8.1	3.7	1.9	0.9	0.3	0.1	0.0	5.9	15.0
CD71	100.0	54.2	29.7	21.6	14.9	8.0	3.9	2.4	1.3	0.3	0.1	10.1	24.0
CD72	100.0	54.2	36.2	29.7	21.6	11.5	5.6	3.3	1.9	0.4	0.1	13.4	26.2
CD73	100.0	56.6	38.9	31.8	24.4	16.8	11.3	8.1	5.4	2.4	1.0	20.0	40.2
CD74	100.0	60.0	40.1	31.3	24.6	15.6	11.7	7.7	4.8	2.9	0.6	19.2	38.5
CD75	100.0	57.0	38.5	31.3	24.9	18.2	14.0	10.5	7.6	2.9	0.7	22.2	43.0
CD76	100.0	38.5	25.9	18.3	10.1	3.6	1.6	0.7	0.2	0.0	0.0	6.3	14.3
CD77	100.0	44.2	27.7	19.3	11.9	4.6	1.9	0.9	0.3	0.2	0.0	7.2	16.3
CD78	100.0	39.0	24.6	17.0	11.9	3.2	1.2	0.6	0.3	0.0	0.0	5.8	13.3
CD79	100.0	62.0	41.9	32.0	21.7	12.0	6.7	4.5	2.7	0.9	0.5	15.6	32.4
CD80	100.0	62.0	42.5	33.0	22.6	12.3	7.5	4.7	3.3	1.4	0.5	16.4	33.6
CD81	100.0	41.4	31.2	27.0	22.3	14.6	9.7	6.0	3.7	1.3	0.5	10.2	35.6
GR01	100.0	74.8	45.2	32.1	19.9	10.4	6.0	3.5	2.2	0.6	0.3	14.5	27.2
GR02	100.0	71.1	44.1	31.6	19.9	11.0	7.3	5.0	3.5	1.6	0.7	10.5	35.1
GR03	100.0	67.2	41.2	30.4	19.7	10.3	6.1	3.6	1.9	0.4	0.2	13.8	26.2
GR04	100.0	62.3	37.6	28.4	18.5	10.0	5.2	2.7	1.4	0.4	0.1	12.4	24.0
GR05	100.0	43.4	29.4	21.0	13.9	6.3	3.0	1.4	0.6	0.1	0.0	8.3	18.2
GR06	100.0	44.0	27.5	19.7	11.9	5.4	3.0	1.4	0.6	0.0	0.0	7.5	16.7
GR07	100.0	30.2	18.7	13.2	7.2	2.7	0.8	0.3	0.2	0.0	0.0	4.5	12.1
GR10	100.0	35.5	17.5	10.0	18.1	8.9	5.1	2.9	1.6	0.5	0.2	12.2	25.9
GR11	100.0	33.9	17.5	10.0	14.9	2.2	1.3	0.8	0.4	0.1	0.1	4.3	13.9
GR13	100.0	47.1	28.5	17.3	9.9	4.6	2.3	1.5	1.0	0.3	0.0	7.3	18.4

WALDEN DIV. OF ABCUR, INC.
PROVIDENCE NAAS RESULTS - SCENARIO 2
TABLE

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD.DEV.	GEO MEAN
			5.	10.	20.	40.	60.	80.	100.	150.	200.			
GR14	100.0	52.2	34.1	23.3	14.1	7.5	4.1	2.3	1.4	0.4	0.1	10.2	22.8	N/A
GR15	100.0	23.5	15.2	11.1	6.8	2.7	1.0	0.5	0.3	0.1	0.0	4.1	13.2	N/A
GR16	100.0	84.3	62.1	47.8	33.4	16.5	8.3	5.2	3.0	0.8	0.3	21.0	30.3	N/A
GR17	100.0	81.1	58.4	43.8	28.7	14.8	9.1	5.4	3.5	1.0	0.4	20.0	33.6	N/A
GR18	100.0	85.9	66.2	52.5	35.5	21.2	13.3	8.5	5.9	2.2	1.0	26.9	42.5	N/A
GR19	100.0	82.6	58.7	42.7	28.5	14.7	8.3	5.2	3.7	1.5	0.5	20.2	35.0	N/A
GR20	100.0	10.3	3.6	2.1	1.1	0.3	0.1	0.1	0.0	0.0	0.0	(0.8)	5.1	N/A
GR21	100.0	17.0	10.4	7.1	3.8	1.6	0.7	0.3	0.0	0.0	0.0	(2.6)	9.6	N/A
GR22	100.0	22.7	13.0	8.4	4.5	2.2	1.3	0.4	0.1	0.0	0.0	3.3	11.5	N/A
GR23	100.0	40.7	22.7	14.3	8.1	4.4	3.0	1.9	1.0	0.5	0.2	(6.9)	21.4	N/A
GR24	100.0	40.7	19.9	13.0	8.9	5.7	3.6	2.4	2.1	1.0	0.4	(8.2)	27.8	N/A
GR25	100.0	30.3	15.5	11.4	8.0	4.9	2.9	2.0	0.9	0.2	0.0	(5.8)	18.2	N/A
GR26	100.0	96.4	82.4	70.6	55.0	37.2	26.9	20.4	16.7	11.7	8.7	64.7	108.0	N/A
GR31	100.0	94.0	76.4	60.3	41.3	25.4	18.6	14.7	11.9	6.5	3.0	38.1	58.7	N/A
GR32	100.0	89.8	62.6	43.9	25.6	11.6	6.7	4.0	2.7	1.3	0.6	18.7	32.9	N/A

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAUS RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAUS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE*	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD57	137.4	740110	24	94.9	740329	24
CD58	113.6	740110	24	104.6	740831	24
CD59	84.2	741106	24	72.5	740617	24
CD60	108.5	740625	24	106.2	740626	24
CD61	143.5	740626	24	104.4	741222	24
CD62	147.4	740121	24	129.6	741031	24
CD63	85.9	740110	24	55.8	740413	24
CD64	59.9	741025	24*	58.9	740625	24
CD65	90.6	740110	24	76.3	740931	24
CD66	74.7	740110	24	64.4	740101	24
CD67	98.2	740927	24	87.8	741226	24
CD68	84.6	740413	24	81.9	740625	24
CD69	102.0	740626	24	81.6	740323	24
CD70	44.2	740506	24	43.0	740510	24
CD71	88.5	740402	24	54.9	741014	24
CD72	63.1	740626	24	62.2	740929	24
CD73	121.4	740818	24	101.0	741115	24
CD74	90.7	740710	24	68.6	741006	24
CD75	127.0	740905	24	120.1	741216	24
CD76	55.7	740626	24	49.1	741216	24
CD77	64.2	740530	24	58.7	740626	24
CD78	54.3	740626	24	40.4	740303	24
CD79	88.8	740910	24	85.3	740913	24
CD80	85.3	740219	24	69.8	740808	24
CD81	109.6	741201	24	108.0	740625	24
GR01	96.7	740730	24	86.2	740617	24
GR02	120.4	740929	24	117.6	740512	24
GR03	88.5	740615	24	66.0	740601	24

WALDEN DIV. OF ABCUR, INC.
PROVIDENCE NAAS RESULTS - SCENARIO 2
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR04	110.5	740813	24	69.8	740929	24
GR05	67.8	740605	24	64.0	740601	24
GR06	70.7	740929	24	38.9	740605	24
GR07	45.6	740412	24	44.5	740724	24
GR11	89.2	740403	24	78.6	740126	24
GR12	73.0	740303	24	49.1	740601	24
GR13	66.5	740121	24	63.8	740303	24
GR14	72.2	740121	24	64.4	740617	24
GR15	51.7	740626	24	40.0	740629	24
GR16	80.8	740617	24	75.9	740111	24
GR17	87.9	741104	24	84.0	740616	24
GR18	105.8	741007	24	104.5	741118	24
GR19	93.2	741129	24	91.0	741226	24
LR01	20.1	741104	24	19.0	740303	24
LR02	32.0	741112	24	31.7	740810	24
LR03	38.5	741112	24	28.0	741202	24
LR04	67.7	741017	24	62.8	740530	24
LR05	120.0	740927	24	114.6	740203	24
LR06	73.2	740203	24	57.4	740903	24
MO01	302.1	740618	24	301.0	740724	24
MO02	178.4	740601	24	176.5	740403	24
MO03	153.8	741031	24	116.5	740622	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 302.1 MICROGRAMS PER CUBIC METER, ON 740618 AT HOUR 24 FOR
SULFUR DIOXIDE DYER ST.

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 301.0 MICROGRAMS PER CUBIC METER, ON 740724 AT HOUR 24 FOR
SULFUR DIOXIDE DYER ST.

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD48	792.9	740610	9	785.9	740704	15

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 792.9 MICROGRAMS PER CUBIC METER, ON 740610 AT HOUR 9 FOR
SULFUR DIOXIDE SITE CD48

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 785.9 MICROGRAMS PER CUBIC METER, ON 740704 AT HOUR 15 FOR
SULFUR DIOXIDE SITE CD48

PROVIDENCE NAAQS RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 74101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	1.	PERCENT GREATER THAN INDICATED VALUE									ARITHMETIC MEAN STD.DEV. MEAN		G N	
		5.	10.	20.	40.	60.	80.	100.	150.	200.	73.0	106.0		
CO4A	100.0	97.9	90.4	80.6	67.2	47.6	33.7	24.5	19.4	12.3	8.8	73.0	106.0	N

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WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD48	429.4	740223	24	373.9	740317	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 429.4 MICROGRAMS PER CUBIC METER, ON 740223 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD48

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 373.9 MICROGRAMS PER CUBIC METER, ON 740317 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD48

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	162.7	740724	24	145.0	740126	24
CD2	144.7	740724	24	134.0	740319	6
CD4	160.0	740319	6	157.2	741125	9
CD5	230.8	740503	3	234.9	740509	3
CD7	260.8	740517	3	258.8	740913	6
CD8	482.4	741031	3	275.7	740130	24
CD9	313.2	740130	24	305.9	740130	21
CD10	265.7	740605	3	254.2	741212	24
CD11	519.7	740222	6	273.6	740503	6
CD12	442.6	740222	6	336.4	740605	6
CD13	567.0	741031	3	400.1	740130	24
CD14	496.3	740913	6	366.7	740517	3
CD15	507.7	740509	3	481.5	740503	3
CD16	514.3	740910	6	506.7	740509	3
CD17	637.4	740222	6	422.2	740605	6
CD18	494.2	740222	6	469.8	740323	3
CD19	490.1	740222	6	402.8	741030	24
CD20	701.4	741207	24	471.6	740928	24
CD21	566.5	740724	24	345.6	740725	3
CD22	489.5	740426	3	457.0	740724	24
CD23	657.7	741207	24	482.9	740928	24
CD24	507.9	740222	6	504.2	740323	3
CD25	1057.9	741031	3	636.2	740130	24
CD26	296.2	740724	24	285.5	740730	24
CD28	387.5	740724	24	202.3	740221	21
CD29	212.9	740608	24	211.3	740724	24
CD30	410.0	740601	3	238.2	740303	18
CD31	349.1	740129	24	312.6	740509	3

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAS RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD32	412.4	740129	24	400.8	740608	24
CD34	641.3	740601	3	436.4	741104	21
CD35	384.4	740530	24	311.2	741104	21
CD36	695.8	740724	24	525.7	740608	24
CD38	605.9	740724	24	596.5	741009	21
CD39	553.6	740908	21	530.2	741121	15
CD40	583.8	740929	24	523.5	740506	21
CD41	774.4	740404	18	745.2	740606	18
CD42	472.5	740813	21	453.0	740421	6
CD43	808.1	741031	3	618.8	740821	24
CD44	730.6	740222	6	670.6	740602	24
CD45	844.9	740321	3	697.0	740813	6
CD46	851.9	741207	24	649.1	740808	24
CD47	862.5	740822	15	823.8	740326	15
CD48	544.2	740614	3	514.2	741226	3
CD50	576.2	741104	21	479.0	740402	3
CD51	553.1	740601	3	323.0	740601	6
CD52	399.5	740227	6	390.3	740722	6
CD53	740.2	741015	3	672.7	740625	3
CD54	584.8	740926	3	490.5	740625	3
CD55	499.3	740908	24	460.8	740624	3
CD56	447.8	740927	6	415.2	740601	3

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 1057.9 MICROGRAMS PER CUBIC METER, ON 741031 AT HOUR 3 FOR
SULFUR DIOXIDE SITE CD25

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 823.8 MICROGRAMS PER CUBIC METER, ON 740326 AT HOUR 15 FOR
SULFUR DIOXIDE SITE CD47

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE NAAQS PREDICTIONS - (RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD. DEV.	GEOP MEAN
			5.	10.	20.	40.	60.	80.	100.	150.	200.			
01	100.0	34.9	24.8	17.8	10.1	4.0	1.6	0.7	0.2	0.0	0.0	6.1	14.3	N/A
02	100.0	45.1	29.1	20.5	11.7	4.7	2.4	1.2	0.3	0.0	0.0	7.5	16.2	N/A
03	100.0	44.7	31.2	22.4	13.8	6.4	3.0	1.5	0.5	0.1	0.0	8.6	18.1	N/A
04	100.0	54.5	36.2	26.4	16.2	7.4	3.9	2.2	1.3	0.3	0.1	10.7	21.7	N/A
05	100.0	54.9	37.5	28.7	19.6	9.0	4.8	3.3	1.9	0.4	0.1	12.4	24.7	N/A
06	100.0	64.0	50.5	40.8	27.7	13.8	7.1	5.0	2.4	0.6	0.3	17.3	26.2	N/A
07	100.0	69.5	53.9	43.8	29.3	14.8	8.4	5.8	3.0	1.0	0.3	19.0	30.8	N/A
08	100.0	70.5	54.2	44.4	30.5	16.4	9.5	6.5	3.4	1.2	0.4	20.3	32.2	N/A
09	100.0	67.8	51.1	40.3	27.1	14.3	8.4	5.5	3.1	0.9	0.4	18.3	31.9	N/A
10	100.0	69.5	53.9	45.7	32.8	19.3	11.6	7.0	4.1	1.3	0.4	22.3	35.5	N/A
11	100.0	86.7	70.1	56.1	36.5	18.0	9.6	5.3	3.5	1.1	0.7	24.0	35.9	N/A
12	100.0	82.9	66.7	53.3	35.0	16.9	9.2	5.4	3.5	1.5	0.6	23.0	35.2	N/A
13	100.0	58.2	43.6	35.1	25.0	13.7	8.8	5.8	4.0	1.6	0.7	18.3	37.8	N/A
14	100.0	83.8	66.6	51.0	34.2	18.6	11.7	7.5	5.2	2.6	1.1	25.7	43.5	N/A
15	100.0	89.4	74.2	56.1	36.1	18.1	11.6	7.8	5.2	2.1	0.8	26.2	39.7	N/A
16	100.0	93.0	80.3	61.2	43.0	25.3	16.4	11.1	7.5	3.1	1.5	33.0	47.2	N/A
17	100.0	91.9	77.6	58.0	38.2	20.3	12.7	8.0	5.7	2.1	0.8	27.5	39.9	N/A
18	100.0	84.9	63.4	49.2	36.2	21.8	14.6	10.0	6.6	2.7	0.9	27.8	45.2	N/A
19	100.0	83.3	60.0	44.6	29.3	15.7	8.6	5.7	3.6	1.1	0.5	25.4	41.4	N/A
20	100.0	89.1	69.7	56.7	33.2	19.5	12.5	7.8	5.1	2.3	1.1	35.6	51.2	N/A
21	100.0	94.8	81.7	68.7	44.6	28.7	20.5	13.9	9.2	3.6	1.7	37.5	48.0	N/A
22	100.0	95.8	77.4	59.8	40.6	22.1	14.3	9.8	6.6	3.0	1.6	31.6	53.5	N/A
23	100.0	73.3	55.1	41.7	27.8	13.7	7.4	4.1	2.4	0.6	0.2	17.7	27.9	N/A
24	100.0	58.2	39.3	28.5	17.4	6.9	3.2	1.4	0.8	0.2	0.1	10.7	20.6	N/A
25	100.0	43.2	29.3	20.0	11.2	4.1	1.9	1.0	0.7	0.1	0.1	8.5	16.5	N/A
26	100.0	67.9	35.4	20.5	11.1	4.4	2.3	1.4	1.1	0.3	0.1	19.6	33.2	N/A
27	100.0	64.1	46.8	38.0	28.6	18.2	10.9	6.0	3.5	1.0	0.2	23.2	32.9	N/A
28	100.0	82.4	67.4	53.3	36.4	18.3	9.9	5.5	2.9	1.1	0.3	18.7	30.7	N/A
29	100.0	91.0	72.7	55.0	34.8	16.2	9.2	5.9	3.7	1.0	0.4	23.0	32.3	N/A
30	100.0	94.1	80.7	65.8	43.6	21.3	12.6	7.7	4.7	1.5	0.7	28.6	38.5	N/A
31	100.0	96.4	84.1	70.5	47.9	28.0	17.4	12.1	8.7	3.7	1.7	36.7	49.7	N/A
32	100.0	96.9	86.3	74.6	57.1	39.4	28.3	21.5	17.3	9.6	5.3	54.9	72.8	N/A
33	100.0	98.1	90.8	74.3	53.4	33.7	24.7	20.0	16.7	10.2	5.7	52.7	73.5	N/A

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WALDEN DIV. OF ABCOR, INC.
PROVIDENCE, NAAS RESULTS - SCENARIO 3
TABLE

TEST NUMBER	CUMULATIVE -999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD. DEV.		GEOM. MEAN
			5.	10.	20.	40.	60.	80.	100.	150.	200.	11.0	12.2		
001	100.0	95.3	83.7	66.4	47.8	33.3	26.5	22.2	19.6	14.6	11.0	67.1	112.2	N/A	
002	100.0	90.2	81.0	67.7	49.4	30.8	22.1	16.3	11.8	5.2	2.0	40.5	53.9	N/A	
003	100.0	93.4	80.4	62.1	43.9	28.7	22.7	18.5	16.1	10.7	6.4	50.1	82.1	N/A	
004	100.0	93.8	81.9	66.0	49.2	32.8	23.7	17.9	13.5	6.3	3.2	44.5	64.3	N/A	
005	100.0	91.5	78.9	69.6	57.8	41.6	32.6	25.0	18.8	8.6	4.0	54.4	69.2	N/A	
006	100.0	94.1	81.7	68.2	52.8	36.5	27.1	21.2	16.2	8.5	4.3	50.5	70.2	N/A	
007	100.0	93.5	81.7	79.3	65.5	48.7	37.1	28.3	22.1	12.4	8.0	72.6	101.3	N/A	
008	100.0	92.2	82.6	69.7	50.2	31.0	21.6	15.6	12.2	5.8	2.5	41.9	57.6	N/A	
009	100.0	89.9	76.0	61.3	42.9	25.3	15.7	10.6	7.3	2.9	1.3	32.0	45.8	N/A	
010	100.0	85.2	62.3	43.9	26.1	10.5	5.3	3.5	2.0	0.7	0.3	17.2	28.0	N/A	
011	100.0	91.2	80.6	67.7	49.2	31.3	21.4	14.7	10.4	3.8	2.1	38.7	49.5	N/A	
012	100.0	92.9	82.0	67.4	47.4	27.6	18.1	13.2	11.1	5.4	2.8	39.5	59.4	N/A	
013	100.0	94.8	83.4	68.7	47.5	25.9	16.7	11.0	7.6	3.6	1.5	34.6	46.9	N/A	
014	100.0	90.0	78.6	64.6	44.6	24.0	14.3	9.2	6.6	3.1	1.4	31.6	44.3	N/A	
015	100.0	94.8	81.6	65.9	47.3	25.4	14.7	9.3	5.9	2.3	0.8	31.7	40.6	N/A	

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WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
C01	55.4	740512	24	48.1	740323	24
C02	63.8	740929	24	51.8	740512	24
C04	59.5	740929	24	58.8	740323	24
C05	66.9	740323	24	48.5	740126	24
C07	97.2	741030	24	81.3	740323	24
C08	123.7	741031	24	85.2	741030	24
C09	113.6	741030	24	108.1	741031	24
C010	114.1	740605	24	106.9	740213	24
C011	86.6	740222	24	85.2	740605	24
C012	111.6	740605	24	85.6	740213	24
C013	169.3	741031	24	119.1	740130	24
C014	125.3	741030	24	111.6	740913	24
C015	106.3	740912	24	105.2	740323	24
C016	128.9	740912	24	116.1	740910	24
C017	126.6	740605	24	111.3	740222	24
C018	143.1	740913	24	138.5	740605	24
C019	126.9	740605	24	111.2	740222	24
C020	174.6	741207	24	112.2	741030	24
C021	120.7	740724	24	95.7	740928	24
C022	125.6	741120	24	115.8	740219	24
C023	188.4	741207	24	126.9	740808	24
C024	147.3	740605	24	130.3	740422	24
C025	261.0	741031	24	166.8	740213	24
C027	99.7	741031	24	90.1	740622	24
C028	73.6	740724	24	59.8	740730	24
C029	59.1	740608	24	51.1	740323	24
C030	95.2	740303	24	84.5	740412	24
C031	95.9	740323	24	91.2	740601	24
					740608	24

WALDEN DIV. OF ARCOR, INC.
PROVIDENCE NAAS RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD32	108.3	740608	24	94.4	740724	24
CD34	136.3	740303	24	132.6	740601	24
CD35	109.9	740303	24	90.0	740617	24
CD36	136.9	740724	24	130.7	740608	24
CD38	142.7	741121	24	140.4	740724	24
CD39	215.6	740617	24	214.2	741121	24
CD40	257.8	740506	24	245.1	740929	24
CD41	331.9	740422	24	324.9	740515	24
CD42	211.7	740929	24	172.4	740126	24
CD43	256.3	741031	24	215.4	740130	24
CD44	159.7	741207	24	144.6	740928	24
CD45	199.3	740813	24	194.6	741207	24
CD46	192.5	741207	24	176.1	740422	24
CD47	331.2	740828	24	323.1	740818	24
CD48	170.2	741120	24	148.6	740401	24
CD49	115.4	740102	24	107.1	740314	24
CD50	112.5	740601	24	72.6	740402	24
CD51	137.1	740721	24	135.7	741206	24
CD52	158.2	740625	24	153.6	740208	24
CD53	186.4	740110	24	133.6	740120	24
CD54	111.3	740111	24	109.0	741206	24
CD55	148.5	740110	24	121.3	740831	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 331.9 MICROGRAMS PER CUBIC METER, ON 740422 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD41

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 324.9 MICROGRAMS PER CUBIC METER, ON 740515 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD41

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE HAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE HAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD57	313.7	740601	3	294.7	740926	3
CD58	321.7	740617	9	300.0	740603	3
CD59	340.8	741207	24	304.8	740617	9
CD60	437.2	741015	3	360.2	741026	24
CD61	485.5	740808	24	465.7	741028	24
CD62	505.9	741031	6	394.5	740130	24
CD63	305.2	741014	3	260.4	740717	24
CD64	301.2	741015	3	286.9	740625	3
CD65	314.2	740403	6	257.5	740815	6
CD66	295.1	740509	6	232.2	741014	3
CD67	401.2	740815	6	371.9	740927	6
CD68	385.3	741015	3	313.8	740625	6
CD69	296.6	740913	6	295.4	740910	6
CD70	253.9	740402	6	199.6	740403	6
CD71	558.4	740402	6	265.2	741014	24
CD72	304.3	740221	21	265.4	740813	21
CD73	326.3	740913	6	304.9	740421	3
CD74	397.4	740807	24	357.9	740808	24
CD75	300.6	740625	3	291.6	741015	3
CD76	181.4	741014	3	167.0	740426	24
CD77	219.0	740530	24	207.9	740807	24
CD78	176.9	740609	3	169.8	740908	21
CD79	392.1	740913	6	354.8	740902	21
CD80	495.2	740808	24	381.5	740807	24
CD81	422.7	741015	3	411.9	740625	3
GR01	307.1	740620	21	261.1	740730	24
GR02	399.7	740512	18	362.3	740611	21
GR03	271.6	740615	24	259.8	741207	24

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAS RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND	MAX VALUE	DATE	HOUR
GR04	312.4	740813	21		227.8	741124	9
GR05	169.5	740325	21		154.6	741212	24
GR06	182.2	741104	24		149.9	740323	3
GR07	174.4	740724	24		139.8	740512	15
GR11	381.0	740221	21		335.3	740129	24
GR12	240.0	740601	3		219.6	740303	18
GR13	210.6	740609	3		193.0	740601	3
GR14	338.9	740402	6		244.9	740617	9
GR15	221.9	740609	3		198.8	740509	6
GR16	357.5	740617	9		317.4	740626	6
GR17	680.5	741104	21		336.4	740402	3
GR18	560.7	740806	24		458.3	741007	6
GR19	422.2	740814	21		386.0	740909	6
LR01	161.6	741104	21		95.2	740303	21
LR02	122.0	740629	6		99.0	740409	9
LR03	156.5	740402	6		139.2	740530	9
LR04	313.4	741028	24		288.8	740527	18
LR05	489.2	740927	6		446.2	740927	3
LR06	203.3	740111	6		176.2	740603	24
MO01	744.5	740705	12		727.0	740521	15
MO02	662.3	740403	6		467.7	740126	24
MO03	577.1	741031	3		356.3	741030	3

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 744.5 MICROGRAMS PER CUBIC METER, ON 740705 AT HOUR 12 FOR
SULFUR DIOXIDE DYER ST.

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 727.0 MICROGRAMS PER CUBIC METER, ON 740521 AT HOUR 15 FOR
SULFUR DIOXIDE DYER ST.

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAVS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE NAAVS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 3 HOURS)

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE						ARITHMETIC MEAN STD. DEV.		GEC MEAN		
			5.	10.	20.	40.	60.	80.	100.	150.		200.	
057	100.0	95.9	81.1	66.3	46.0	25.7	14.9	9.4	5.6	2.1	0.5	37.2	N/1
058	100.0	84.6	69.2	56.8	40.4	22.6	12.3	7.0	3.8	1.5	0.2	34.4	N/1
059	100.0	82.0	62.7	47.1	30.0	14.4	8.0	4.5	2.3	0.8	0.2	29.4	N/1
060	100.0	72.5	56.1	46.3	33.0	19.6	11.0	7.0	4.5	1.9	0.7	38.4	N/1
061	100.0	93.3	76.6	64.4	48.4	30.5	13.1	11.5	7.5	2.9	1.2	44.0	N/1
062	100.0	82.8	60.7	44.6	29.1	16.5	10.0	3.9	2.2	0.6	0.2	44.0	N/1
063	100.0	72.9	51.2	38.4	23.7	11.6	6.0	3.9	2.2	0.8	0.4	26.9	N/1
064	100.0	76.3	56.4	42.0	26.9	14.1	8.1	4.1	2.7	0.4	0.1	30.1	N/1
065	100.0	88.2	69.1	50.2	30.2	13.8	7.4	3.8	2.1	0.5	0.2	26.0	N/1
066	100.0	74.7	56.9	44.6	28.3	14.0	7.0	3.0	2.3	0.8	0.3	26.0	N/1
067	100.0	83.3	64.4	48.0	32.4	12.6	6.9	4.1	2.0	0.6	0.0	29.0	N/1
068	100.0	67.5	42.7	35.3	23.4	11.7	5.9	3.0	2.0	0.6	0.0	27.6	N/1
069	100.0	63.4	42.7	32.7	22.0	12.8	7.2	4.4	2.0	1.4	0.2	32.4	N/1
070	100.0	48.4	17.3	9.0	9.0	4.0	2.1	0.9	0.3	0.1	0.0	15.5	N/1
071	100.0	61.2	34.8	24.1	16.0	8.4	4.3	2.4	1.3	0.4	0.1	24.5	N/1
072	100.0	62.4	42.0	33.3	23.7	12.4	5.9	3.5	2.0	0.5	0.1	26.7	N/1
073	100.0	62.7	43.5	34.2	26.4	17.5	11.0	8.2	5.0	2.2	0.7	40.4	N/1
074	100.0	63.6	42.5	33.5	23.7	15.9	11.9	9.0	7.8	3.0	0.8	39.2	N/1
075	100.0	61.8	42.5	34.5	27.0	18.8	14.3	10.6	7.0	3.0	0.0	17.6	N/1
076	100.0	40.9	31.6	24.3	14.7	5.0	3.3	1.1	0.5	0.1	0.0	19.2	N/1
077	100.0	42.3	33.4	25.0	15.8	7.0	3.3	1.2	0.6	0.1	0.0	17.2	N/1
078	100.0	64.2	44.5	33.7	22.1	5.1	2.2	1.2	2.8	0.9	0.5	32.5	N/1
079	100.0	64.2	45.0	34.4	23.2	12.5	7.6	4.7	3.3	1.4	0.5	33.0	N/1
080	100.0	43.9	33.2	27.5	22.5	14.8	9.9	6.3	3.6	1.7	0.3	37.7	N/1
081	100.0	78.9	51.0	36.4	21.8	12.0	7.7	5.2	3.6	1.7	0.2	35.9	N/1
082	100.0	75.0	49.0	34.4	21.2	11.4	6.4	4.0	2.1	0.5	0.2	24.4	N/1
083	100.0	69.2	46.1	35.2	22.4	11.4	6.4	4.0	1.5	0.4	0.0	19.1	N/1
084	100.0	65.0	42.8	31.6	19.0	10.7	5.3	3.0	1.0	0.0	0.0	17.1	N/1
085	100.0	46.6	30.9	21.8	12.8	5.7	3.3	1.5	0.5	0.1	0.0	18.8	N/1
086	100.0	46.1	30.9	21.8	12.8	5.7	3.3	1.5	0.5	0.1	0.0	17.7	N/1
087	100.0	34.1	20.9	14.3	8.4	3.1	1.0	0.4	0.2	0.0	0.0	27.0	N/1
088	100.0	36.8	19.9	11.6	25.8	11.1	1.5	0.4	0.2	0.1	0.0	14.8	N/1
089	100.0	52.5	32.7	20.5	11.0	4.9	2.4	0.9	0.5	0.3	0.1	27.7	N/1
090	100.0											14.7	N/1
091	100.0											19.0	N/1
092	100.0												N/1
093	100.0												N/1
094	100.0												N/1
095	100.0												N/1
096	100.0												N/1
097	100.0												N/1
098	100.0												N/1
099	100.0												N/1
100	100.0												N/1

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WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	-99.9.	1.	PERCENT GREATER THAN INDICATED VALUE					ARITHMETIC MEAN					GEOMETRIC MEAN
			5.	10.	20.	40.	60.	80.	100.	150.	200.	MEAN STD. DEV.	
GR14	100.0	57.1	38.7	26.1	15.3	8.0	4.2	2.4	1.4	0.1	11.2	23.4	N//
GR15	100.0	24.5	17.5	12.6	7.6	3.3	1.3	0.7	0.5	0.0	4.8	14.9	N//
GR16	100.0	87.5	68.6	54.1	38.5	19.9	10.3	6.5	3.9	0.3	24.3	32.5	N//
GR17	100.0	84.8	63.4	48.6	32.7	16.7	10.0	6.0	3.0	0.4	22.8	35.3	N//
GR18	100.0	88.5	70.9	57.9	40.1	23.4	14.6	9.6	6.7	1.2	29.8	44.1	N//
GR19	100.0	86.1	64.4	48.0	32.0	16.7	9.5	5.6	4.0	0.6	22.4	36.2	N//
TR01	100.0	11.6	3.7	2.1	1.1	0.4	0.1	0.1	0.0	0.0	0.9	5.3	N//
TR02	100.0	19.1	10.9	7.2	3.9	1.8	0.8	0.3	0.0	0.0	12.7	9.7	N//
TR03	100.0	24.8	13.9	8.9	4.7	2.3	1.4	0.4	0.1	0.0	3.5	11.6	N//
TR04	100.0	42.8	24.9	15.3	8.5	4.7	3.1	1.9	1.0	0.5	7.3	21.7	N//
TR05	100.0	43.8	21.3	13.5	9.1	5.8	3.7	2.4	2.1	1.0	8.4	27.8	N//
TR06	100.0	33.0	16.4	11.9	8.1	4.9	2.9	2.0	0.9	0.0	6.0	18.2	N//
TR07	100.0	97.9	89.1	77.6	62.9	44.5	32.1	25.0	19.2	9.2	72.6	109.8	N//
TR08	100.0	96.2	85.0	72.7	55.3	34.9	23.2	17.5	13.2	3.5	46.4	60.8	N//
TR09	100.0	94.4	74.7	57.9	36.0	17.7	9.8	5.5	3.9	1.5	24.0	36.3	N//

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD57	147.9	740110	24	104.1	740219	24
CD58	125.6	740110	24	109.4	740831	24
CD59	87.0	741106	24	80.4	740413	24
CD60	114.8	740625	24	109.7	740626	24
CD61	148.3	740626	24	105.8	741222	24
CD62	151.2	740121	24	131.7	741031	24
CD63	101.4	740110	24	80.9	740624	24
CD64	170.5	741025	24	65.6	740413	24
CD65	101.4	740110	24	80.1	740413	24
CD66	89.1	740110	24	78.0	740413	24
CD67	98.8	740927	24	89.0	740815	24
CD68	94.2	740413	24	84.2	740625	24
CD69	105.2	740626	24	81.6	740323	24
CD70	44.6	740506	24	43.8	740510	24
CD71	91.5	740402	24	56.2	740626	24
CD72	65.1	740626	24	62.8	740929	24
CD73	121.5	740818	24	103.2	741115	24
CD74	90.9	740710	24	90.0	741006	24
CD75	128.6	740905	24	121.3	741215	24
CD76	58.1	740626	24	53.2	741216	24
CD77	65.8	740530	24	60.7	740626	24
CD78	55.9	740626	24	42.8	740503	24
CD79	88.6	740910	24	85.3	740913	24
CD80	85.3	740219	24	70.4	740808	24
CD81	110.1	741201	24	106.2	740625	24
GR01	97.0	740730	24	80.2	740617	24
GR02	120.6	740929	24	117.6	740512	24
GR03	89.3	740615	24	70.7	740601	24

WALDEN DIV. OF AUCOR, INC.
PROVIDENCE NAAS RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR04	110.7	740813	24	70.9	740929	24
GR05	72.2	740605	24	65.6	740601	24
GR06	72.7	740929	24	42.4	740605	24
GR07	49.4	740412	24	45.5	740724	24
GR11	96.1	740403	24	86.4	740126	24
GR12	77.7	740303	24	49.6	740601	24
GR13	69.7	740121	24	67.1	740303	24
GR14	75.5	740121	24	66.1	740402	24
GR15	53.1	740626	24	44.5	741216	24
GR16	83.8	740111	24	60.8	740617	24
GR17	68.3	741104	24	64.0	740616	24
GR18	108.9	741118	24	106.5	741007	24
GR19	97.0	741129	24	94.4	741226	24
LR01	120.8	741104	24	20.7	740303	24
LR02	32.4	741112	24	32.1	740810	24
LR03	39.1	741112	24	30.7	740413	24
LR04	68.2	741017	24	62.8	740530	24
LR05	120.1	740927	24	114.6	740203	24
LR06	73.2	740203	24	57.4	740903	24
MO01	314.1	740724	24	312.7	740618	24
MO02	187.9	740601	24	186.4	740403	24
MO03	161.1	741031	24	125.8	741030	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 314.1 MICROGRAMS PER CUBIC METER, ON 740724 AT HOUR 24 FOR
SULFUR DIOXIDE DYER ST.

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 312.7 MICROGRAMS PER CUBIC METER, ON 740618 AT HOUR 24 FOR
SULFUR DIOXIDE DYER ST.

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD48	811.4	740610	9	796.3	740704	15

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 811.4 MICROGRAMS PER CUBIC METER, ON 740610 AT HOUR 9 FOR
SULFUR DIOXIDE SITE CD48

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 796.3 MICROGRAMS PER CUBIC METER, ON 740704 AT HOUR 15 FOR
SULFUR DIOXIDE SITE CD48

WALDEN DIV. OF ABCOR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	I.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD. DEV. MEA	N
		5.	10.	20.	40.	60.	80.	100.	150.	200.			
C114A	100.0	98.8	93.7	85.6	74.4	56.7	41.9	31.1	24.0	14.0	9.6	82.9	107.5

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WALDEN DIV. OF ABCUR, INC.
PROVIDENCE NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
PROVIDENCE NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD48	433.3	740223	24	376.7	740317	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 433.3 MICROGRAMS PER CUBIC METER, ON 740223 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD48

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 376.7 MICROGRAMS PER CUBIC METER, ON 740317 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD48

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
S.W. RHODE ISLAND PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	35.9	740921	9	30.1	740601	3
CD2	34.9	740429	24	28.2	740610	9
CD3	35.3	740510	21	27.9	740208	24
CD4	19.6	740413	24	17.4	741225	9
CD5	19.6	740413	24	16.3	740413	21
CD6	26.7	740429	24	20.9	740413	21
CD7	27.6	740921	9	24.4	741225	9
CD8	21.4	741225	9	18.8	740413	21
CD9	64.7	740208	24	63.8	740510	21
CD10	47.7	740601	3	45.6	741014	21
IN01	36.9	740207	3	34.8	740527	6
IN02	19.6	740413	24	16.3	740413	21
IN03	19.6	740413	24	16.3	740413	21
IN04	19.6	740413	24	16.3	740413	21
IN05	25.7	741203	3	20.7	740118	3
IN06	23.0	740305	15	19.6	740413	24
IN07	21.4	741225	19	18.8	740413	21
IN08	21.4	741225	9	18.8	740413	21
IN09	48.9	740703	6	47.6	740710	6
GR04	35.8	741014	3	29.4	740603	3
GR05	46.0	740603	3	45.1	741014	3
GR06	21.0	740624	6	19.6	741008	6
GR07	15.9	741008	6	15.8	741014	3
GR08	14.6	741008	6	14.5	741205	21
GR09	35.8	741014	3	29.4	740603	3
GR10	35.8	741014	3	29.4	740603	3
GR11	35.8	741014	3	29.5	740603	3
GR12	21.8	740413	24	21.3	740413	21

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND PSD RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR13	26.3	740413	24	21.3	740413	21
GR14	20.5	740413	24	15.7	740413	21
GR15	19.6	740413	24	16.3	740413	21
GR17	21.4	741225	9	18.8	740413	21
GR18	20.4	740413	24	18.2	740413	21
GR22	19.6	740413	24	16.3	740413	21
GR23	21.6	740413	21	20.0	740413	24
GR27	21.4	741225	9	19.8	740413	21
GR28	19.6	740413	24	16.3	740413	21
GR29	19.6	740413	24	16.3	740413	21
GR33	21.4	741225	9	18.8	740413	21
GR34	19.6	740413	24	16.3	740413	21
GR35	19.6	740413	24	16.3	740413	21
GR36	37.3	740920	18	19.6	740413	24
GR37	19.6	740318	21	32.7	740321	24
GR38	20.0	740413	24	16.3	740413	21
GR39	36.9	741120	15	19.6	740413	24
MO01	24.1	740413	24	32.4	740413	21
MO02	21.4	740207	3	19.6	740413	24
MO03	21.4	741225	9	18.8	740413	21
LR01	19.6	741225	9	18.8	740413	21
LR02	(20.0	740807	24	14.5	741205	21
		741230	24	18.9	741212	3

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 64.7 MICROGRAMS PER CUBIC METER, ON 740208 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD09

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 63.8 MICROGRAMS PER CUBIC METER, ON 740510 AT HOUR 21 FOR
SULFUR DIOXIDE SITE CD09

WALDEN DIV. OF AUCOR, INC.
S.W. RHODE ISLAND PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MLANS,
STANDARD DEVIATIONS, AND MAXIMA OF
S.W. RHODE ISLAND PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE							150.	200.	ARITHMETIC MEAN STD.DEV.	GEO MEAN
			5.	10.	20.	40.	60.	80.	100.				
CD1	100.0	19.2	8.1	3.9	0.8	0.0	0.0	0.0	0.0	0.0	1.2	3.5	N/A
CD2	100.0	20.5	7.8	2.9	0.7	0.0	0.0	0.0	0.0	0.0	1.1	2.9	N/A
CD3	100.0	21.9	11.1	5.8	0.7	0.0	0.0	0.0	0.0	0.0	1.5	3.9	N/A
CD4	100.0	19.4	4.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.8	N/A
CD5	100.0	20.9	3.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.7	N/A
CD6	100.0	21.4	8.2	1.7	0.1	0.0	0.0	0.0	0.0	0.0	1.1	2.5	N/A
CD7	100.0	28.0	8.7	2.7	0.2	0.0	0.0	0.0	0.0	0.0	1.4	3.0	N/A
CD8	100.0	23.6	5.8	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.2	N/A
CD9	100.0	33.3	13.8	9.9	5.6	0.8	0.1	0.0	0.0	0.0	3.1	7.6	N/A
CD10	100.0	17.5	5.8	5.3	2.2	0.2	0.0	0.0	0.0	0.0	1.5	5.1	N/A
CD11	100.0	13.3	5.8	2.8	0.4	0.0	0.0	0.0	0.0	0.0	0.8	2.9	N/A
CD12	100.0	21.5	5.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.0	N/A
CD13	100.0	21.1	4.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.8	N/A
CD14	100.0	21.8	5.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.9	N/A
CD15	100.0	24.9	8.6	2.3	0.1	0.0	0.0	0.0	0.0	0.0	1.2	2.7	N/A
CD16	100.0	22.8	9.2	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.9	N/A
CD17	100.0	16.7	2.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.7	N/A
CD18	100.0	38.6	14.2	7.4	2.3	0.0	0.0	0.0	0.0	0.0	2.5	5.3	N/A
CD19	100.0	33.0	11.2	4.3	0.6	0.0	0.0	0.0	0.0	0.0	1.8	3.6	N/A
CD20	100.0	32.3	13.0	7.7	2.5	0.2	0.0	0.0	0.0	0.0	2.4	5.2	N/A
CD21	100.0	28.5	6.1	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.2	N/A
CD22	100.0	24.9	3.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.6	N/A
CD23	100.0	29.3	7.1	2.2	0.4	0.0	0.0	0.0	0.0	0.0	1.3	2.9	N/A
CD24	100.0	28.6	7.1	3.0	0.4	0.0	0.0	0.0	0.0	0.0	1.6	3.2	N/A
CD25	100.0	30.3	10.8	3.0	0.4	0.0	0.0	0.0	0.0	0.0	1.0	2.4	N/A
CD26	100.0	20.5	6.8	1.7	0.1	0.0	0.0	0.0	0.0	0.0	1.0	2.2	N/A
CD27	100.0	23.8	2.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.6	N/A
CD28	100.0	19.8	2.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.4	N/A
CD29	100.0	16.8	2.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.2	2.3	N/A
CD30	100.0	27.2	4.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.9	N/A
CD31	100.0	20.5	3.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.6	N/A
CD32	100.0	19.5	3.8	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.7	1.9	N/A
CD33	100.0	15.2	3.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.9	N/A

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WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND PSD RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD.DEV.	GEO MEAN
			5.	10.	20.	40.	60.	80.	100.	150.	200.			
0027	100.0	17.1	2.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.8	N/A
0028	100.0	16.9	2.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.5	N/A
0029	100.0	18.3	4.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.8	N/A
0033	100.0	16.4	2.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.6	N/A
0034	100.0	14.9	3.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.3	N/A
0035	100.0	18.8	5.7	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	3.7	N/A
0036	100.0	22.4	9.3	4.7	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.9	N/A
0037	100.0	17.8	5.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.1	N/A
0038	100.0	15.5	4.8	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.9	N/A
0039	100.0	12.2	5.8	2.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.0	N/A
0041	100.0	12.6	4.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.6	N/A
0042	100.0	16.8	3.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.7	N/A
0043	100.0	14.2	2.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.7	N/A
0044	100.0	20.8	3.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.7	N/A
0045	100.0	23.2	3.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6	N/A

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
S.W. RHODE ISLAND PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	10.7	740817	24	9.7	740827	24
CD2	9.2	740317	24	6.1	740413	24
CD3	13.1	740413	24	12.5	740904	24
CD4	6.1	740413	24	5.7	740625	24
CD5	6.1	740413	24	4.8	740203	24
CD6	7.5	740413	24	7.1	740317	24
CD7	8.2	740413	24	8.0	740817	24
CD08	8.2	740413	24	7.6	741105	24
CD09	22.0	740904	24	20.0	740206	24
CD10	16.2	740817	24	16.0	741114	24
IN01	13.0	740527	24	12.8	740330	24
IN02	6.1	740413	24	4.8	740203	24
IN03	6.1	740413	24	4.9	740203	24
IN04	6.2	741112	24	6.1	740413	24
IN05	8.4	740413	24	7.8	741106	24
IN06	8.2	740305	24	7.2	740413	24
IN07	8.2	740413	24	7.4	741105	24
IN08	8.2	740413	24	7.1	741105	24
IN09	18.9	740307	24	15.8	741101	24
GR04	19.3	741114	24	9.1	740817	24
GR05	14.6	740208	24	13.2	740904	24
GR06	5.5	740815	24	5.4	741205	24
GR07	4.6	741205	24	4.4	740815	24
GR08	4.7	741205	24	3.7	740324	24
GR09	8.0	740208	24	7.1	740207	24
GR10	8.0	740208	24	7.1	740207	24
GR11	8.0	740208	24	7.7	740625	24
GR12	7.3	740413	24	7.2	740203	24

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND PSD RESULTS - SCENARIO I
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR13	8.4	740413	24	6.6	740203	24
GR14	7.0	740413	24	5.7	740203	24
GR15	6.9	740413	24	5.2	740203	24
GR17	8.3	740413	24	7.4	741105	24
GR18	9.2	740413	24	6.0	740203	24
GR22	6.1	740413	24	4.8	740203	24
GR23	7.7	740413	24	6.4	740203	24
GR27	8.6	740413	24	7.0	741105	24
GR28	6.1	740413	24	4.8	740203	24
GR29	6.1	740413	24	4.0	740203	24
GR33	8.2	740413	24	7.3	741105	24
GR34	6.1	740413	24	4.8	740203	24
GR35	6.1	740413	24	5.4	740912	24
GR36	12.2	741203	24	9.7	740311	24
GR37	6.1	740413	24	4.9	740203	24
GR38	6.1	740413	24	6.1	741120	24
GR39	12.2	740413	24	11.3	740203	24
MO01	6.2	740527	24	6.1	740413	24
MO02	8.7	740413	24	7.6	741105	24
MO03	8.2	740413	24	7.1	741105	24
LR01	4.1	741205	24	3.8	740104	24
LR02	4.0	741106	24	3.7	741205	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 22.0 MICROGRAMS PER CUBIC METER, ON 740904 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD09

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 20.0 MICROGRAMS PER CUBIC METER, ON 740206 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD09

WALDEN DIV. OF ARCOR, INC.
S.W. RHODE ISLAND PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
S.W. RHODE ISLAND PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	35.9	740921	9	34.0	740413	24
CD2	34.9	740429	24	34.0	740413	24
CD3	35.3	740510	21	34.0	740413	24
CD4	46.3	740510	21	39.7	741221	12
CD5	40.5	740921	9	40.1	740817	9
CD6	36.6	740413	21	34.2	740413	24
CD7	40.4	740413	21	34.7	740413	18
CD8	40.4	740413	21	34.7	740413	18
CD9	81.7	740413	9	76.4	740207	21
CD10	47.7	740601	3	45.6	741014	21
IN01	39.5	740207	3	38.4	740527	6
IN02	50.1	740530	9	45.4	740829	24
IN03	50.4	740413	21	45.3	741016	3
IN04	35.8	741121	12	35.0	740413	24
IN05	34.0	740413	24	33.3	740413	21
IN06	34.0	740413	24	32.5	740413	21
IN07	40.4	740413	21	34.7	740413	18
IN08	40.4	740413	21	34.7	740413	18
IN09	51.3	740710	6	50.8	740703	6
GR04	44.3	740413	9	44.0	740406	12
GR05	66.5	740413	9	58.0	740207	21
GR06	28.3	740406	12	22.8	740406	9
GR07	26.6	740406	12	21.7	740406	9
GR08	25.8	740406	12	21.2	740406	12
GR09	44.3	740413	9	44.0	740406	12
GR10	44.3	740413	9	44.0	740406	12
GR11	44.3	740413	9	44.0	740406	12
GR12	37.0	740413	21	36.2	740413	24

WALDEN DIV. OF ARCOR, INC.
S.W. RHODE ISLAND PSD RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND	MAX VALUE	DATE	HOUR
GR13	40.7	740413	24		37.0	740413	21
GR14	34.9	740413	24		32.3	740413	21
GR15	34.0	740413	24		32.0	740413	21
GR17	40.4	740413	21		34.7	740413	18
GR18	34.8	740413	24		33.9	740413	21
GR22	34.0	740413	24		32.9	740413	21
GR23	37.5	740413	21		34.8	740413	24
GR27	40.4	740413	21		34.7	740413	18
GR28	34.0	740413	24		31.9	740413	21
GR29	41.1	740413	24		39.5	740413	21
GR33	40.4	740413	21		34.7	740413	18
GR34	34.0	740413	24		31.9	740413	21
GR35	34.0	740413	24		31.9	740413	21
GR36	37.3	740318	21		34.0	740413	24
GR37	34.0	740413	24		32.4	740413	21
GR38	34.0	740413	24		31.9	740413	21
GR39	51.3	740413	24		48.1	740413	21
MO01	34.0	740413	24		31.9	740413	21
MO02	40.4	740413	21		34.7	740413	18
MO03	40.4	740413	21		34.7	740413	18
LR01	23.7	740406	12		19.8	740406	9
LR02	23.7	740406	12		20.1	741230	24

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 81.7 MICROGRAMS PER CUBIC METER, ON 740413 AT HOUR 9 FOR
SULFUR DIOXIDE SITE CD09

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 76.4 MICROGRAMS PER CUBIC METER, ON 740207 AT HOUR 21 FOR
SULFUR DIOXIDE SITE CD09

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
S.W. RHODE ISLAND PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD.DEV.		GEO MEAN
			5.	10.	20.	40.	60.	80.	100.	150.	200.	1.5	3.6		
C01	100.0	25.0	9.3	4.4	0.9	0.0	0.0	0.0	0.0	0.0	0.0	1.5	3.8	N/A	
C02	100.0	25.7	10.8	3.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.5	3.4	N/A	
C03	100.0	25.5	13.0	6.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	4.3	N/A	
C04	100.0	33.1	15.8	8.6	2.3	0.0	0.0	0.0	0.0	0.0	0.0	2.5	5.3	N/A	
C05	100.0	35.6	12.3	5.7	1.5	0.1	0.0	0.0	0.0	0.0	0.0	2.2	4.7	N/A	
C06	100.0	29.5	10.8	2.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.5	3.1	N/A	
C07	100.0	44.6	12.8	3.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	2.1	3.6	N/A	
C008	100.0	39.1	9.2	2.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.7	3.0	N/A	
C009	100.0	43.1	17.0	10.9	6.4	1.3	0.2	0.0	0.0	0.0	0.0	3.9	8.8	N/A	
C010	100.0	22.2	7.9	5.3	2.2	0.0	0.0	0.0	0.0	0.0	0.0	1.7	5.1	N/A	
C001	100.0	17.0	6.9	3.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	1.1	3.5	N/A	
C003	100.0	26.6	11.9	5.3	1.7	0.1	0.0	0.0	0.0	0.0	0.0	1.9	4.8	N/A	
C004	100.0	25.3	10.3	5.2	1.9	0.2	0.0	0.0	0.0	0.0	0.0	1.8	4.9	N/A	
C005	100.0	31.0	14.5	7.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	4.9	N/A	
C006	100.0	33.6	11.5	3.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.7	3.4	N/A	
C007	100.0	30.1	11.6	4.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.7	3.4	N/A	
C008	100.0	31.6	8.3	2.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.4	3.0	N/A	
C009	100.0	26.3	5.4	1.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.7	N/A	
C000	100.0	48.2	19.4	9.2	3.5	0.3	0.0	0.0	0.0	0.0	0.0	3.3	6.1	N/A	
C001	100.0	45.5	15.6	6.3	1.4	0.2	0.0	0.0	0.0	0.0	0.0	2.5	4.6	N/A	
C002	100.0	40.1	16.9	9.5	4.0	0.5	0.0	0.0	0.0	0.0	0.0	3.1	6.7	N/A	
C003	100.0	36.8	8.9	2.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.6	2.4	N/A	
C004	100.0	35.4	6.5	1.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.2	N/A	
C005	100.0	32.8	5.8	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.2	2.2	N/A	
C006	100.0	41.4	12.1	4.0	1.2	0.2	0.0	0.0	0.0	0.0	0.0	2.2	4.2	N/A	
C007	100.0	45.3	12.1	4.0	1.2	0.2	0.0	0.0	0.0	0.0	0.0	2.2	4.2	N/A	
C008	100.0	51.2	16.4	5.0	1.2	0.2	0.0	0.0	0.0	0.0	0.0	2.2	4.2	N/A	
C009	100.0	28.3	9.0	2.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.4	3.1	N/A	
C010	100.0	30.8	8.9	1.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.4	2.8	N/A	
C011	100.0	27.0	4.3	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.3	N/A	
C012	100.0	23.9	3.3	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	2.1	3.3	N/A	
C013	100.0	45.5	13.8	3.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.6	N/A	
C014	100.0	30.9	7.6	1.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	2.7	N/A	
C015	100.0	29.5	7.0	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	2.7	N/A	
C016	100.0	26.2	7.7	1.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.2	2.7	N/A	

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WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND PSD RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD. DEV.	GEOM MEAN S
			5.	10.	20.	40.	50.	60.	80.	100.	150.	200.		
27	100.0	27.4	5.9	1.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	N/A
28	100.0	28.5	5.5	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	N/A
29	100.0	21.9	7.9	2.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	N/A
30	100.0	24.0	5.3	1.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	N/A
31	100.0	20.2	4.6	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	N/A
32	100.0	24.7	7.1	2.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	N/A
33	100.0	27.4	12.3	5.4	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	N/A
34	100.0	22.3	6.7	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	N/A
35	100.0	20.4	5.8	1.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	N/A
36	100.0	16.4	7.1	3.3	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.9	N/A
37	100.0	16.0	5.8	1.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	N/A
38	100.0	25.9	5.6	1.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	N/A
39	100.0	21.3	4.8	1.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	N/A
40	100.0	28.1	5.3	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	N/A
41	100.0	30.9	5.3	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	N/A

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
S.W. RHODE ISLAND PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	12.2	740413	24	10.7	740817	24
CD2	12.2	740413	24	9.2	740317	24
CD3	19.2	740413	24	13.0	740904	24
CD4	20.4	740413	24	15.6	740904	24
CD5	14.5	740817	24	14.4	740726	24
CD6	13.6	740413	24	9.2	740203	24
CD7	16.5	740413	24	10.1	740203	24
CD08	16.5	740413	24	10.1	740203	24
CD09	24.3	740413	24	24.2	740208	24
CD10	16.3	740817	24	16.2	741114	24
IN01	14.5	740527	24	13.7	740330	24
IN02	16.5	741112	24	12.4	740413	24
IN03	17.2	740413	24	17.1	740203	24
IN04	14.0	741121	24	12.6	740413	24
IN05	14.5	740413	24	10.4	741106	24
IN06	13.3	740413	24	9.8	740305	24
IN07	16.5	740413	24	10.1	741105	24
IN08	16.8	740413	24	10.1	740203	24
IN09	19.4	740307	24	16.6	740406	24
GR04	16.6	740406	24	13.9	740413	24
GR05	19.2	740413	24	18.8	740208	24
GR06	11.1	740406	24	6.8	740208	24
GR07	12.3	740406	24	5.8	740101	24
GR08	10.7	740406	24	5.9	740101	24
GR09	16.6	740406	24	13.9	740413	24
GR10	16.6	740406	24	13.9	740413	24
GR11	16.6	740406	24	13.9	740413	24
GR12	13.4	740413	24	10.4	740203	24

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND PSD RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR13	14.4	740413	24	9.8	740203	24
GR14	13.0	740413	24	8.8	740203	24
GR15	13.0	740413	24	8.3	740203	24
GR17	16.6	740413	24	10.1	740203	24
GR18	15.4	740413	24	9.1	740203	24
GR22	12.8	740413	24	8.3	740203	24
GR23	14.0	740413	24	9.8	740203	24
GR27	17.1	740413	24	10.1	740203	24
GR28	12.2	740413	24	8.0	740203	24
GR29	14.7	740413	24	12.5	740203	24
GR33	16.6	740413	24	10.1	740203	24
GR34	13.1	740413	24	8.0	740203	24
GR35	12.2	740413	24	8.0	740203	24
GR36	12.2	741203	24	12.2	740413	24
GR37	12.8	740413	24	8.2	740203	24
GR38	12.2	740413	24	8.0	740203	24
GR39	18.3	740413	24	14.4	740203	24
MO01	12.2	740413	24	8.0	740203	24
MO02	17.1	740413	24	10.1	740203	24
MO03	16.9	740413	24	10.1	740203	24
LR01	9.9	740406	24	4.8	741205	24
LR02	11.2	740406	24	5.2	740101	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 24.3 MICROGRAMS PER CUBIC METER, ON 740413 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD09

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 24.2 MICROGRAMS PER CUBIC METER, ON 740208 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD09

WALDEN DIV. OF AIRCORP. INC.
S.W. RHODE ISLAND NAAQS RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
S.W. RHODE ISLAND NAAQS PREDICTIONS -
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	121.9	740628	6	100.0	740409	9
CD2	126.8	740628	6	104.5	740409	9
CD3	129.6	740628	6	104.5	741108	21
CD4	138.7	740628	6	100.5	741016	6
CD5	124.1	740628	6	101.0	740409	9
CD6	121.6	740628	6	111.1	740905	24
CD7	156.5	740402	6	149.2	740530	9
CD8	175.9	740402	6	141.4	740530	9
CD9	313.4	741027	24	288.8	740527	18
CD10	87.4	740601	3	83.6	741014	21
IN01	122.4	740628	6	103.7	740409	9
IN02	130.0	740628	6	115.6	740409	9
IN03	128.5	740628	6	104.8	741111	18
IN04	128.7	740628	6	107.4	740409	9
IN05	121.6	740628	6	99.0	740409	9
IN06	121.6	740628	6	99.0	740409	9
IN07	156.5	740402	6	139.2	740530	9
IN08	156.5	740402	6	139.2	740530	9
IN09	313.4	741027	24	288.8	740527	18
GR04	313.4	741027	24	288.8	740527	18
GR05	313.4	741027	24	288.8	740527	18
GR06	203.3	740111	6	176.2	740602	24
GR07	203.3	740111	6	176.2	740602	24
GR08	203.3	740111	6	176.2	740602	24
GR09	313.4	741027	24	288.8	740527	18
GR10	313.4	741027	24	288.8	740527	18
GR11	343.8	741027	24	315.8	740527	18
GR12	121.6	740628	6	99.0	740409	9

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND NAAQS RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR13	121.6	740628	6	101.6	741111	18
GR14	121.6	740628	6	99.0	740409	9
GR15	121.6	740628	6	99.0	740409	9
GR17	172.6	740402	6	140.5	740530	9
GR18	121.6	740628	6	99.0	740409	9
GR22	122.0	740628	6	101.2	740409	9
GR23	121.6	740628	6	99.0	740409	9
GR27	156.5	740402	6	139.2	740530	9
GR28	122.2	740628	6	100.0	740409	9
GR29	128.8	740628	6	105.8	740527	18
GR33	156.5	740402	6	139.2	740530	9
GR34	121.6	740628	6	99.1	740409	9
GR35	122.8	740628	6	100.4	740409	9
GR36	128.6	740628	6	104.2	740409	9
GR37	124.2	740628	6	101.0	740527	18
GR38	121.6	740628	6	99.4	740409	9
GR39	130.0	740628	6	106.0	741111	18
M001	122.2	740628	6	102.3	740409	9
M002	156.5	740402	6	139.2	740530	9
M003	156.5	740402	6	139.2	740530	9
LR01	203.3	740111	6	176.2	740602	24
LR02	203.3	740111	6	176.2	740602	24

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 343.8 MICROGRAMS PER CUBIC METER, ON 741027 AT HOUR 24 FOR
SULFUR DIOXIDE SITE GR11

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 315.8 MICROGRAMS PER CUBIC METER, ON 740527 AT HOUR 18 FOR
SULFUR DIOXIDE SITE GR11

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND NAAQS RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
S.W. RHODE ISLAND NAAQS PREDICTIONS -
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 3 HOURS)

STATION/RECEPTOR	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD. DEV.		GEOM MEAN 5	
	-999.	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.			
1	100.0	32.6	18.4	12.5	6.9	2.3	0.8	0.4	0.1	0.0	0.0	4.3	11.0	N/A
2	100.0	29.9	20.0	13.3	6.1	1.9	0.9	0.3	0.1	0.0	0.0	4.1	10.7	N/A
3	100.0	29.0	21.2	15.9	8.7	2.2	1.0	0.4	0.1	0.0	0.0	4.8	11.9	N/A
4	100.0	36.9	24.3	14.8	5.4	1.9	1.1	0.5	0.2	0.0	0.0	4.6	11.2	N/A
5	100.0	40.8	22.8	12.0	4.9	1.8	0.8	0.3	0.1	0.0	0.0	4.3	10.2	N/A
6	100.0	35.9	22.5	12.6	4.7	1.8	0.7	0.3	0.1	0.0	0.0	4.1	10.2	N/A
7	100.0	50.2	22.8	13.8	6.3	2.4	1.4	0.5	0.2	0.0	0.0	5.2	12.3	N/A
8	100.0	45.1	18.8	9.9	4.8	2.4	1.4	0.6	0.2	0.0	0.0	4.5	12.1	N/A
9	100.0	55.4	29.0	20.1	14.9	9.0	5.0	2.5	1.4	0.5	0.2	10.7	24.9	N/A
10	100.0	24.3	11.1	7.5	5.0	1.8	0.6	0.1	0.0	0.0	0.0	2.9	9.3	N/A
11	100.0	20.9	14.1	10.3	5.9	2.3	1.0	0.4	0.1	0.0	0.0	3.5	11.1	N/A
12	100.0	30.4	19.5	12.3	6.1	2.2	0.9	0.5	0.1	0.0	0.0	4.2	11.3	N/A
13	100.0	29.4	19.1	11.4	5.9	2.2	0.9	0.5	0.2	0.0	0.0	4.1	11.2	N/A
14	100.0	33.4	22.2	14.8	6.2	1.9	0.8	0.4	0.1	0.0	0.0	4.5	11.0	N/A
15	100.0	40.6	22.3	13.2	5.3	1.7	0.8	0.4	0.0	0.0	0.0	4.4	10.5	N/A
16	100.0	34.5	21.5	14.0	5.3	1.9	0.8	0.3	0.0	0.0	0.0	4.3	10.5	N/A
17	100.0	38.6	18.2	9.1	4.4	2.2	1.3	0.5	0.2	0.0	0.0	4.0	11.5	N/A
18	100.0	34.2	14.7	7.7	4.2	2.2	1.3	0.4	0.1	0.0	0.0	3.6	11.3	N/A
19	100.0	61.7	32.9	21.5	12.9	5.6	3.2	2.1	1.1	0.5	0.2	9.6	22.4	N/A
20	100.0	59.0	28.9	18.5	9.7	4.5	2.8	1.9	1.1	0.5	0.2	8.2	21.4	N/A
21	100.0	52.4	29.3	19.6	13.3	6.4	3.5	2.1	1.1	0.5	0.2	9.3	22.9	N/A
22	100.0	47.3	25.0	15.2	9.1	5.2	2.9	2.1	0.9	0.2	0.0	7.1	18.4	N/A
23	100.0	47.1	22.3	13.3	8.3	5.0	2.9	2.1	0.9	0.2	0.0	6.8	18.2	N/A
24	100.0	43.7	20.7	12.2	8.0	4.9	2.9	2.0	0.9	0.2	0.0	6.5	18.2	N/A
25	100.0	54.8	25.2	14.8	8.0	4.4	2.8	1.9	1.0	0.5	0.2	7.4	21.2	N/A
26	100.0	58.3	25.3	14.5	8.1	4.4	2.8	1.9	1.1	0.5	0.2	7.5	21.2	N/A
27	100.0	59.4	27.8	16.0	8.7	4.8	3.1	2.3	1.3	0.5	0.3	8.2	23.5	N/A
28	100.0	35.2	18.7	11.2	5.1	1.8	0.7	0.3	0.0	0.0	0.0	3.9	10.1	N/A
29	100.0	39.2	20.1	11.2	4.4	1.8	0.7	0.3	0.0	0.0	0.0	3.9	9.9	N/A
30	100.0	35.2	14.7	7.6	3.9	1.8	0.7	0.3	0.0	0.0	0.0	3.3	9.5	N/A
31	100.0	33.1	12.6	6.9	3.8	1.7	0.7	0.3	0.0	0.0	0.0	3.0	9.4	N/A
32	100.0	51.8	24.7	12.0	5.1	2.3	1.3	0.5	0.2	0.0	0.0	3.0	11.9	N/A
33	100.0	37.4	16.5	9.7	4.1	1.8	0.8	0.3	0.0	0.0	0.0	3.7	9.7	N/A
34	100.0	35.7	16.2	8.3	3.8	1.8	0.8	0.3	0.0	0.0	0.0	3.5	9.8	N/A
35	100.0	32.1	15.6	8.6	4.2	1.7	0.7	0.3	0.0	0.0	0.0	3.4	9.9	N/A

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND NAAQS RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD.DEV.	GEOM. MEAN 5.
			5.	10.	20.	40.	60.	80.	100.	150.	200.			
4.7	100.0	34.9	15.4	7.9	4.2	2.2	1.3	0.4	0.1	0.0	0.0	3.7	11.3	N/A
4.8	100.0	35.0	15.7	7.5	3.7	1.7	0.8	0.3	0.0	0.0	0.0	3.3	9.6	N/A
4.9	100.0	26.5	16.4	9.5	4.8	1.8	0.8	0.4	0.2	0.0	0.0	3.5	10.5	N/A
4.95	100.0	31.4	15.2	7.8	4.2	2.2	1.3	0.4	0.1	0.0	0.0	3.6	11.3	N/A
4.95	100.0	27.9	14.4	8.2	3.6	1.7	0.7	0.3	0.0	0.0	0.0	3.1	9.6	N/A
4.95	100.0	31.0	17.1	10.1	4.4	1.7	0.7	0.3	0.1	0.0	0.0	3.6	10.0	N/A
4.95	100.0	32.4	21.2	14.4	7.3	2.4	0.9	0.3	0.1	0.0	0.0	4.7	11.5	N/A
4.95	100.0	26.9	16.1	9.5	4.2	1.8	0.7	0.3	0.1	0.0	0.0	3.3	10.0	N/A
4.95	100.0	28.1	14.7	9.4	4.3	1.7	0.7	0.3	0.1	0.0	0.0	3.3	9.8	N/A
4.95	100.0	19.8	13.4	10.1	6.0	2.1	1.0	0.4	0.1	0.0	0.0	3.5	11.2	N/A
4.95	100.0	20.6	13.6	9.2	4.5	1.8	0.8	0.3	0.1	0.0	0.0	3.1	10.1	N/A
4.95	100.0	33.1	15.2	7.9	4.2	2.2	1.3	0.4	0.1	0.0	0.0	3.6	11.3	N/A
4.95	100.0	30.6	13.4	7.6	4.2	2.2	1.3	0.4	0.1	0.0	0.0	3.4	11.3	N/A
4.95	100.0	43.3	18.8	12.3	7.9	4.9	2.9	2.1	0.9	0.2	0.0	6.4	18.1	N/A
4.95	100.0	46.6	19.4	12.5	8.0	4.9	3.0	2.0	0.9	0.2	0.0	6.5	18.1	N/A

WALDEN DIV. OF AUCOR, INC. -
S.W. RHODE ISLAND NAAQS RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
S.W. RHODE ISLAND NAAQS PREDICTIONS -
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	32.5	740809	24	32.0	741111	24
CD2	34.3	740809	24	33.4	741111	24
CD3	37.7	741111	24	37.0	740809	24
CD4	36.4	740809	24	36.2	741111	24
CD5	34.0	740809	24	32.2	741111	24
CD6	34.3	740809	24	32.4	741111	24
CD7	39.4	741111	24	28.7	741201	24
CD08	41.3	741111	24	34.7	740330	24
CD09	75.9	741016	24	70.6	740109	24
CD10	29.7	740817	24	29.4	741114	24
IN01	40.3	741111	24	38.0	740527	24
IN02	39.6	740809	24	37.8	741111	24
IN03	37.8	740809	24	37.2	741016	24
IN04	36.4	740809	24	35.2	741111	24
IN05	37.8	741111	24	35.1	740809	24
IN06	35.8	740809	24	32.0	741111	24
IN07	38.2	741111	24	31.2	740330	24
IN08	38.0	741111	24	27.9	741201	24
IN09	67.3	741016	24	62.8	740530	24
GR04	67.3	741016	24	63.1	740530	24
GR05	72.6	741016	24	64.7	740109	24
GR06	73.5	740203	24	57.7	741106	24
GR07	73.4	740203	24	57.4	740902	24
GR08	73.3	740203	24	57.4	740902	24
GR09	67.3	741016	24	63.8	740530	24
GR10	67.3	741016	24	64.1	740530	24
GR11	76.3	741016	24	70.8	740625	24
GR12	32.1	741111	24	32.1	740809	24

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND NAAQS RESULTS -- SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR13	34.2	741111	24	31.7	740809	24
GR14	32.5	741111	24	31.7	740809	24
GR15	32.4	741111	24	31.7	740809	24
GR17	40.0	741111	24	31.3	740330	24
GR18	33.1	741111	24	33.0	740809	24
GR22	33.3	740809	24	32.4	741111	24
GR23	34.0	740809	24	32.5	741111	24
GR27	38.0	741111	24	28.3	741201	24
GR28	32.6	741111	24	32.4	740809	24
GR29	34.5	740809	24	33.4	741111	24
GR33	38.0	741111	24	28.2	741201	24
GR34	31.9	741111	24	31.9	740809	24
GR35	32.9	740809	24	32.0	741111	24
GR36	35.5	740809	24	33.0	741111	24
GR37	33.9	740809	24	32.5	741111	24
GR38	32.1	740809	24	32.1	741111	24
GR39	35.3	741111	24	33.7	740809	24
M001	36.9	741111	24	35.2	740809	24
M002	38.0	741111	24	28.2	741201	24
M003	38.0	741111	24	27.9	741201	24
LR01	73.2	740203	24	57.4	740902	24
LR02	73.2	740203	24	57.4	740902	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 76.3 MICROGRAMS PER CUBIC METER, ON 741016 AT HOUR 24 FOR
SULFUR DIOXIDE SITE GR11

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 70.8 MICROGRAMS PER CUBIC METER, ON 740625 AT HOUR 24 FOR
SULFUR DIOXIDE SITE GR11

WALDEN DIV. OF ABCOR, INC. -
S.W. RHODE ISLAND NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
S.W. RHODE ISLAND NAAQS PREDICTIONS -
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	122.6	740628	6	100.3	740409	9
CD2	128.2	740628	6	106.9	740409	9
CD3	134.2	740628	6	104.9	741108	21
CD4	139.0	740628	6	108.9	741108	21
CD5	124.8	740628	6	101.0	740409	9
CD6	122.0	740628	6	113.4	740905	24
CD7	156.5	740402	6	149.2	740530	9
CD08	175.9	740402	6	141.4	740530	9
CD09	313.4	741027	24	288.8	740527	18
CD10	87.4	740601	3	83.6	741014	21
IN01	123.6	740628	6	103.9	740409	9
IN02	131.1	740829	24	130.8	740628	6
IN03	128.9	740628	6	107.8	740905	24
IN04	129.1	740628	6	107.4	740409	9
IN05	122.0	740628	6	99.0	740409	9
IN06	122.0	740628	6	99.0	740409	9
IN07	156.5	740402	6	139.3	740530	9
IN08	156.5	740402	6	139.2	740530	9
IN09	313.4	741027	24	288.8	740527	18
GR04	313.4	741027	24	288.8	740527	18
GR05	313.4	741027	24	288.8	740527	18
GR06	203.3	740111	6	176.2	740602	24
GR07	203.3	740111	6	176.2	740602	24
GR08	203.3	740111	6	176.2	740602	24
GR09	313.4	741027	24	288.8	740527	18
GR10	313.4	741027	24	288.8	740527	18
GR11	343.8	741027	24	315.8	740527	18
GR12	122.0	740628	6	99.0	740409	9

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND NAAQS RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR13	122.0	740628	6	102.0	741111	18
GR14	122.0	740628	6	99.4	741111	18
GR15	122.0	740628	6	99.0	740409	9
GR17	172.6	740402	6	140.5	740530	9
GR18	122.0	740628	6	99.0	740409	9
GR22	122.3	740628	6	101.2	740409	9
GR23	122.0	740628	6	99.3	740905	24
GR27	156.5	740402	6	139.2	740530	9
GR28	123.2	740628	6	100.7	740409	9
GR29	129.1	740628	6	114.4	740905	24
GR33	156.5	740402	6	139.2	740530	9
GR34	122.0	740628	6	99.1	740409	9
GR35	124.7	740628	6	102.8	740608	3
GR36	131.6	740628	6	106.3	740409	9
GR37	124.8	740628	6	101.2	741111	18
GR38	122.0	740628	6	99.6	740409	9
GR39	136.0	740628	6	107.1	741111	18
MU01	123.3	740628	6	102.5	740409	9
MO02	156.5	740402	6	139.2	740530	9
MO03	156.5	740402	6	139.2	740530	9
LR01	203.3	740111	6	176.2	740602	24
LR02	203.3	740111	6	176.2	740602	24

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 343.8 MICROGRAMS PER CUBIC METER, ON 741027 AT HOUR 24 FOR
SULFUR DIOXIDE SITE GR11

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 315.8 MICROGRAMS PER CUBIC METER, ON 740527 AT HOUR 18 FOR
SULFUR DIOXIDE SITE GR11

WALDEN DIV. OF ARCOR, INC. -
S.W. RHODE ISLAND NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
S.W. RHODE ISLAND NAAQS PREDICTIONS -
SULFUR DIOXIDE PER CURRIC METER
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN	STD. DEV.	GEOM MEAN	
	99.9	1.	5.	10.	20.	40.	60.	80.	100.	150.				200.
01	100.0	34.6	20.1	13.3	7.3	2.5	0.8	0.4	0.1	0.0	0.0	4.5	11.3	N/A
02	100.0	32.1	21.6	14.8	6.9	2.4	0.9	0.4	0.1	0.0	0.0	4.5	11.2	N/A
03	100.0	30.1	22.4	16.7	9.0	2.4	1.1	0.5	0.2	0.0	0.0	5.1	12.3	N/A
04	100.0	38.4	27.0	18.7	11.3	3.5	1.3	0.7	0.2	0.0	0.0	6.4	13.8	N/A
05	100.0	43.5	26.9	16.0	8.7	3.1	1.1	0.4	0.1	0.0	0.0	5.7	12.4	N/A
06	100.0	41.4	22.6	14.4	5.5	2.0	0.8	0.3	0.1	0.0	0.0	4.6	10.6	N/A
07	100.0	55.6	28.9	16.3	6.9	2.6	1.5	0.5	0.2	0.0	0.0	6.0	12.6	N/A
08	100.0	50.1	24.3	12.0	5.5	2.5	1.5	0.7	0.2	0.0	0.0	5.1	12.5	N/A
09	100.0	59.6	33.2	21.8	15.5	9.6	5.7	2.8	1.5	0.5	0.2	11.5	25.7	N/A
10	100.0	27.9	12.1	7.5	5.0	1.8	0.6	0.1	0.0	0.0	0.0	3.1	9.3	N/A
11	100.0	22.9	15.2	10.9	6.6	2.4	1.1	0.4	0.1	0.0	0.0	3.8	11.5	N/A
12	100.0	32.7	20.9	13.8	8.2	3.8	1.5	0.7	0.3	0.0	0.0	5.2	13.8	N/A
13	100.0	31.1	20.3	13.1	7.8	3.6	1.7	0.5	0.2	0.0	0.0	5.1	13.4	N/A
14	100.0	36.4	25.7	18.1	9.9	3.5	1.1	0.5	0.2	0.0	0.0	5.9	12.9	N/A
15	100.0	42.6	25.6	15.1	6.1	2.0	0.9	0.4	0.0	0.0	0.0	4.9	10.9	N/A
16	100.0	39.7	23.3	15.6	6.6	2.1	0.9	0.3	0.0	0.0	0.0	4.8	10.9	N/A
17	100.0	41.8	21.1	12.0	5.3	2.4	1.5	0.6	0.2	0.0	0.0	4.7	12.1	N/A
18	100.0	39.4	17.6	9.5	4.8	2.3	1.4	0.5	0.1	0.0	0.0	4.1	11.6	N/A
19	100.0	63.9	37.6	24.1	13.9	6.1	3.4	2.2	1.1	0.5	0.2	10.4	22.8	N/A
20	100.0	63.3	34.0	20.6	10.6	4.8	3.1	2.0	1.1	0.5	0.2	9.0	21.8	N/A
21	100.0	56.3	32.9	21.6	14.1	7.0	3.7	2.3	1.2	0.5	0.2	10.1	23.6	N/A
22	100.0	52.1	27.7	16.3	9.5	5.2	2.9	2.1	0.9	0.2	0.0	7.6	18.5	N/A
23	100.0	51.4	25.5	14.6	8.8	5.1	2.9	2.1	0.9	0.2	0.0	7.2	18.3	N/A
24	100.0	47.6	23.5	13.6	8.5	5.0	2.9	2.0	0.9	0.2	0.0	6.9	18.3	N/A
25	100.0	58.7	30.2	17.0	8.9	4.7	3.1	2.0	1.0	0.5	0.2	8.2	21.6	N/A
26	100.0	62.8	31.3	17.1	9.0	4.7	3.1	1.9	1.1	0.5	0.2	8.3	21.6	N/A
27	100.0	64.8	33.9	19.0	9.6	5.2	3.4	2.3	1.3	0.5	0.3	9.1	23.8	N/A
28	100.0	40.8	21.0	12.7	5.7	2.1	0.8	0.3	0.0	0.0	0.0	4.3	10.5	N/A
29	100.0	44.0	22.3	12.3	4.6	1.9	0.8	0.3	0.1	0.0	0.0	4.3	10.2	N/A
30	100.0	39.5	16.8	8.4	4.1	1.8	0.8	0.3	0.0	0.0	0.0	3.6	9.8	N/A
31	100.0	37.6	14.5	7.5	4.1	1.8	0.8	0.3	0.0	0.0	0.0	3.4	9.7	N/A
32	100.0	56.2	30.6	17.0	6.4	2.3	1.4	0.5	0.2	0.0	0.0	5.9	12.4	N/A
33	100.0	41.1	22.1	11.3	4.5	1.9	0.8	0.3	0.0	0.0	0.0	4.2	10.1	N/A
34	100.0	38.4	19.7	11.0	4.5	2.0	0.9	0.3	0.1	0.0	0.0	4.0	10.3	N/A
35	100.0	36.0	19.8	10.7	5.1	1.9	0.8	0.3	0.0	0.0	0.0	3.9	10.3	N/A

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WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND NAAQS RESULTS - SCENARIO 3
TABLE

POLLUTANT	-999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD. DEV.	GEOM MEAN S
			5.	10.	20.	40.	60.	80.	100.	150.	200.			
PM10	100.0	39.2	18.4	9.8	4.8	2.3	1.4	0.4	0.1	0.0	0.0	4.2	11.7	N/A
PM2.5	100.0	36.2	19.7	9.6	4.4	1.9	0.8	0.3	0.1	0.0	0.0	3.8	10.1	N/A
SO2	100.0	28.5	17.6	11.2	6.1	2.3	0.8	0.4	0.2	0.0	0.0	4.1	11.5	N/A
NO2	100.0	34.9	17.1	9.3	4.7	2.3	1.4	0.4	0.1	0.0	0.0	4.0	11.7	N/A
CO	100.0	30.0	16.0	8.8	4.0	1.9	0.8	0.3	0.0	0.0	0.0	3.3	9.9	N/A
CH4	100.0	32.9	19.0	11.1	4.9	1.8	0.8	0.3	0.1	0.0	0.0	3.9	10.4	N/A
H2O	100.0	34.4	22.7	15.6	7.9	2.6	1.0	0.4	0.1	0.0	0.0	5.0	11.9	N/A
NO	100.0	28.5	17.4	10.4	4.7	1.9	0.8	0.4	0.1	0.0	0.0	3.6	10.4	N/A
PM10	100.0	30.4	16.3	10.0	4.6	1.8	0.8	0.3	0.0	0.0	0.0	3.5	10.1	N/A
PM2.5	100.0	21.5	14.0	10.9	6.4	2.3	1.1	0.5	0.2	0.0	0.0	3.8	11.9	N/A
SO2	100.0	22.6	14.5	9.8	5.2	2.0	0.9	0.4	0.1	0.0	0.0	3.3	10.5	N/A
NO2	100.0	37.5	17.3	9.4	4.8	2.3	1.4	0.5	0.1	0.0	0.0	4.1	11.7	N/A
CO	100.0	35.5	15.2	9.0	4.7	2.3	1.4	0.4	0.1	0.0	0.0	3.8	11.6	N/A
CH4	100.0	46.8	21.2	13.3	8.3	4.9	2.9	2.1	0.9	0.2	0.0	6.7	18.2	N/A
H2O	100.0	50.0	21.8	13.4	8.4	5.0	3.0	2.0	0.9	0.2	0.0	6.8	18.2	N/A

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
S.W. RHODE ISLAND NAAQS PREDICTIONS -
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	33.0	740809	24	32.9	741111	24
CD2	35.7	740809	24	35.0	741111	24
CD3	38.8	741111	24	38.3	740809	24
CD4	42.6	741214	24	41.1	740809	24
CD5	34.9	740809	24	34.2	741104	24
CD6	34.7	740809	24	33.1	741111	24
CD7	40.6	741111	24	30.8	740413	24
CD08	42.4	741111	24	34.7	740330	24
CD09	76.8	741016	24	73.4	740109	24
CD10	29.8	740817	24	29.7	741114	24
IN01	41.4	741111	24	39.5	740527	24
IN02	45.8	740809	24	43.3	741111	24
IN03	46.1	741016	24	42.2	740809	24
IN04	36.8	740809	24	36.0	741111	24
IN05	38.8	741111	24	35.5	740809	24
IN06	36.2	740809	24	32.8	741111	24
IN07	39.4	741111	24	33.9	740330	24
IN08	39.1	741111	24	31.2	740413	24
IN09	68.2	741016	24	63.0	741101	24
GR04	68.2	741016	24	63.1	740530	24
GR05	73.5	741016	24	67.5	740109	24
GR06	73.5	740203	24	58.7	741106	24
GR07	73.4	740203	24	57.4	740902	24
GR08	73.3	740203	24	57.4	740902	24
GR09	68.2	741016	24	63.9	740530	24
GR10	68.2	741016	24	64.1	740530	24
GR11	77.1	741016	24	70.8	740625	24
GR12	32.9	741111	24	32.5	740809	24

WALDEN DIV. OF ABCOR, INC.
S.W. RHODE ISLAND NAAQS RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR13	35.0	741111	24	32.1	740809	24
GR14	33.4	741111	24	32.1	740809	24
GR15	33.6	741111	24	32.1	740809	24
GR17	41.1	741111	24	31.3	740330	24
GR18	34.5	741111	24	33.9	740809	24
GR22	34.6	740809	24	33.3	741111	24
GR23	34.3	740809	24	33.4	741111	24
GR27	39.1	741111	24	31.8	740413	24
GR28	33.5	741111	24	33.1	740809	24
GR29	35.0	740809	24	34.6	741111	24
GR33	39.1	741111	24	30.8	740413	24
GR34	32.9	741111	24	32.4	740809	24
GR35	33.5	740809	24	32.9	741111	24
GR36	36.9	740809	24	34.4	741111	24
GR37	35.5	740809	24	33.3	741111	24
GR38	32.9	741111	24	32.6	740809	24
GR39	36.3	741111	24	35.0	740809	24
M001	37.9	741111	24	35.8	740809	24
M002	39.1	741111	24	31.7	740413	24
M003	39.1	741111	24	31.5	740413	24
LR01	73.2	740203	24	57.4	740902	24
LR02	73.2	740203	24	57.4	740902	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 77.1 MICROGRAMS PER CUBIC METER, ON 741016 AT HOUR 24 FOR
SULFUR DIOXIDE SITE GR11

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 73.4 MICROGRAMS PER CUBIC METER, ON 740109 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD09

WALDEN DIV. OF ABCOR, INC.
NEWPORT PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
NEWPORT PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	67.1	740312	3	60.2	740104	18
CD2	102.6	740117	9	131.3	740814	24
CD3	115.6	740510	21	104.4	740208	24
CD4	135.2	740122	15	112.3	741116	12
CD5	122.6	740429	24	90.7	741122	9
CD6	93.7	740429	24	79.0	741121	21
CD7	110.9	740601	3	106.1	741014	21
CD8	96.3	740304	21	84.0	740601	3
CD9	55.4	740721	24	51.4	740213	21
CD10	35.2	740323	3	35.1	740721	24
CD11	93.3	741018	15	90.5	741108	21
CD12	98.4	740429	24	69.8	740127	18
IN01	62.2	740324	18	57.2	741228	18
IN02	131.3	740606	21	128.6	740530	9
IN03	64.8	740607	18	73.4	740303	21
IN04	117.4	740115	3	108.7	740404	24
IN05	48.1	741029	24	45.2	740719	9
IN06	46.9	740530	3	41.4	740402	9
IN07	73.3	740627	18	70.8	740718	21
GR03	36.4	741030	3	34.8	740130	24
GR04	37.2	740604	3	37.1	741211	24
GR07	37.3	740912	6	26.1	741115	3
GR08	35.5	740718	3	31.1	740213	24
GR11	65.5	741030	3	45.6	740717	24
GR12	64.6	740819	24	52.5	740909	21
GR14	58.7	740421	3	54.8	740921	9
GR15	71.9	740909	21	67.5	740819	24
GR16	57.5	740818	24	53.3	740821	24

WALDEN DIV. OF ARCOR, INC.
NEWPORT PSD RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND	MAX VALUE	DATE	HOUR
GR18	61.3	740816	24		52.0	740913	24
GR19	48.5	740206	21		48.2	740807	6
GR21	74.1	741016	6		70.6	740625	21
GR22	66.1	741005	3		58.7	740807	24
GR23	51.2	740807	24		50.8	741210	3
GR24	43.4	740807	24		40.5	741210	3
GR25	66.9	740927	3		66.7	740216	3
GR26	57.0	740818	6		46.5	740106	24
GR27	46.9	740922	24		38.1	740908	6
GR28	60.4	740603	3		50.8	741130	6
GR29	48.1	740312	3		46.9	740720	24
GR30	46.4	740210	6		38.6	740206	9
GR31	42.3	741212	3		31.7	741019	3
GR32	47.2	740927	3		31.8	741212	3
GR33	46.8	741016	3		43.0	740331	9
GR34	98.8	741103	6		73.9	740530	3
GR35	79.9	741216	12		72.2	741216	21
GR36	50.4	741031	6		41.6	740616	9
MO01	92.5	740112	15		66.4	741122	9
MO02	35.6	740614	3		29.4	741012	6
LR01	29.5	740723	24		25.0	740111	12
LR02	30.6	741008	21		25.0	740111	12

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 162.6 MICROGRAMS PER CUBIC METER, ON 740117 AT HOUR 9 FOR
SULFUR DIOXIDE SITE CD2

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 131.3 MICROGRAMS PER CUBIC METER, ON 740814 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD2

WALDEN DIV. OF AUCOR, INC.
NEWPORT PSD RESULTS - SCENARIO I

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
NEWPORT PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 3 HOURS)

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE					ARITHMETIC MEAN STD. DEV.					GEO MEAN	
			5.	10.	20.	40.	60.	80.	100.	150.	200.			
B-1	100.0	27.1	18.7	13.8	5.6	0.4	0.1	0.0	0.0	0.0	0.0	3.4	7.7	N/A
B-2	100.0	27.1	15.2	11.3	7.3	4.4	2.1	0.9	0.0	0.0	0.0	4.9	14.9	N/A
B-3	100.0	28.7	20.4	16.6	11.4	5.1	1.8	0.6	0.1	0.0	0.0	6.0	14.6	N/A
B-4	100.0	36.7	24.7	20.0	14.1	6.0	1.6	0.6	0.1	0.0	0.0	7.4	15.6	N/A
B-5	100.0	38.0	22.8	16.4	11.3	3.9	0.7	0.2	0.0	0.0	0.0	5.9	13.0	N/A
B-6	100.0	40.0	20.3	15.1	9.3	2.2	0.4	0.0	0.0	0.0	0.0	5.0	10.9	N/A
B-7	100.0	32.4	15.1	10.6	6.8	3.1	1.1	0.4	0.1	0.0	0.0	4.3	12.0	N/A
B-8	100.0	36.4	17.7	12.6	7.9	2.2	0.6	0.1	0.0	0.0	0.0	4.4	10.5	N/A
B-9	100.0	39.8	15.4	8.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	5.5	N/A
B-10	100.0	40.1	19.6	10.7	2.3	0.0	0.0	0.0	0.0	0.0	0.0	3.0	5.4	N/A
B-11	100.0	38.8	20.9	13.5	7.5	2.4	0.8	0.1	0.0	0.0	0.0	4.7	10.6	N/A
B-12	100.0	37.1	15.7	9.2	4.8	0.9	0.2	0.0	0.0	0.0	0.0	3.3	8.0	N/A
B-13	100.0	32.7	19.8	13.5	5.6	0.7	0.0	0.0	0.0	0.0	0.0	3.6	7.7	N/A
B-14	100.0	23.6	10.8	7.5	5.3	3.4	1.6	0.8	0.3	0.0	0.0	3.7	13.2	N/A
B-15	100.0	23.1	8.2	4.6	1.9	0.4	0.1	0.0	0.0	0.0	0.0	1.7	5.5	N/A
B-16	100.0	37.6	18.4	13.8	9.5	4.5	1.9	0.9	0.1	0.0	0.0	5.7	14.4	N/A
B-17	100.0	37.7	14.6	7.6	2.2	0.1	0.0	0.0	0.0	0.0	0.0	2.6	5.3	N/A
B-18	100.0	37.7	16.2	6.6	2.2	0.1	0.0	0.0	0.0	0.0	0.0	2.7	5.4	N/A
B-19	100.0	32.0	13.0	9.0	4.2	0.8	0.1	0.0	0.0	0.0	0.0	2.9	7.4	N/A
B-20	100.0	37.0	14.8	7.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	4.4	N/A
B-21	100.0	36.0	12.8	5.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	2.0	3.9	N/A
B-22	100.0	33.5	12.2	4.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	1.9	3.7	N/A
B-23	100.0	37.6	16.3	7.9	1.6	0.0	0.0	0.0	0.0	0.0	0.0	2.5	4.7	N/A
B-24	100.0	37.9	15.0	6.6	1.4	0.1	0.0	0.0	0.0	0.0	0.0	2.4	4.6	N/A
B-25	100.0	35.9	17.1	8.3	2.0	0.2	0.0	0.0	0.0	0.0	0.0	2.0	5.5	N/A
B-26	100.0	41.8	16.8	10.6	4.5	0.8	0.0	0.0	0.0	0.0	0.0	3.4	7.3	N/A
B-27	100.0	41.2	17.6	10.1	4.0	0.3	0.1	0.0	0.0	0.0	0.0	3.2	6.7	N/A
B-28	100.0	33.8	15.2	8.6	3.0	0.3	0.0	0.0	0.0	0.0	0.0	2.7	6.2	N/A
B-29	100.0	43.0	19.3	12.9	6.3	0.6	0.0	0.0	0.0	0.0	0.0	3.9	5.9	N/A
B-30	100.0	33.7	15.9	10.0	3.0	0.2	0.0	0.0	0.0	0.0	0.0	2.8	7.2	N/A
B-31	100.0	24.7	10.8	7.3	3.9	0.7	0.0	0.0	0.0	0.0	0.0	2.4	7.1	N/A
B-32	100.0	37.6	18.9	11.7	3.9	0.8	0.0	0.0	0.0	0.0	0.0	3.4	7.1	N/A
B-33	100.0	28.5	14.3	7.5	1.5	0.1	0.0	0.0	0.0	0.0	0.0	2.2	4.9	N/A
B-34	100.0	11.5	4.4	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.7	3.8	N/A
B-35	100.0	35.2	19.3	11.8	3.9	0.3	0.1	0.0	0.0	0.0	0.0	3.3	6.9	N/A

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WALDEN DIV. OF ABCOR, INC.
NEWPORT PSD RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD.DEV.		GEO MEAN
			5.	10.	20.	40.	60.	80.	100.	150.	200.				
GR26	100.0	31.1	16.1	7.9	2.0	0.1	0.0	0.0	0.0	0.0	0.0	2.3	5.1	N/A	
GR27	100.0	29.2	12.2	4.8	0.9	0.0	0.0	0.0	0.0	0.0	0.0	1.6	4.0	N/A	
GR28	100.0	26.9	17.0	11.1	4.8	0.6	0.0	0.0	0.0	0.0	0.0	3.1	7.3	N/A	
GR29	100.0	22.6	13.6	6.6	3.1	0.3	0.0	0.0	0.0	0.0	0.0	2.3	6.0	N/A	
GR30	100.0	26.7	14.5	7.9	1.7	0.0	0.0	0.0	0.0	0.0	0.0	2.1	5.0	N/A	
GR31	100.0	28.6	15.3	6.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0	2.1	4.5	N/A	
GR32	100.0	29.5	12.6	4.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	1.6	3.8	N/A	
GR33	100.0	22.4	9.7	5.7	1.6	0.2	0.0	0.0	0.0	0.0	0.0	1.7	4.7	N/A	
GR34	100.0	23.0	9.9	6.3	4.1	1.2	0.3	0.0	0.0	0.0	0.0	2.4	6.0	N/A	
GR35	100.0	21.8	9.0	5.1	2.3	0.7	0.1	0.0	0.0	0.0	0.0	1.6	6.1	N/A	
GR36	100.0	23.4	7.4	3.5	1.2	0.1	0.0	0.0	0.0	0.0	0.0	1.4	3.9	N/A	
GR001	100.0	32.3	23.5	17.2	10.3	2.7	0.4	0.1	0.0	0.0	0.0	5.3	11.6	N/A	
GR002	100.0	34.7	8.9	12.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.6	3.2	N/A	
GR001	100.0	27.0	5.4	1.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.5	N/A	
GR002	100.0	22.8	4.1	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.2	N/A	

WALDEN DIV. OF AUCOR, INC.
NEWPORT PSD RESULTS - SCENARIO 1

TABLE

SEQUENTIAL AVERAGES
NEWPORT PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	20.1	740504	24	19.8	740312	24
CD2	62.7	740203	24	62.0	740902	24
CD3	48.7	740904	24	47.6	740117	24
CD4	53.6	740122	24	46.9	740223	24
CD5	38.5	740317	24	35.4	740313	24
CD6	38.7	741121	24	31.4	740317	24
CD7	35.9	740817	24	34.4	740827	24
CD8	32.0	740927	24	31.0	740817	24
CD9	14.7	740213	24	12.6	740912	24
CD10	10.1	740721	24	9.9	740213	24
CD11	33.6	740711	24	33.2	740117	24
CD12	38.6	740317	24	19.8	740322	24
IN01	21.5	740205	24	20.7	740416	24
IN02	56.2	740625	24	40.5	741112	24
IN03	16.3	740303	24	13.6	740506	24
IN04	42.9	740421	24	40.3	740115	24
IN05	14.9	741029	24	13.0	740920	24
IN06	20.8	740625	24	13.4	741016	24
IN07	19.6	740912	24	16.8	740228	24
GR03	11.7	740130	24	11.3	741030	24
GR04	10.2	740228	24	6.7	740721	24
GR07	9.3	740912	24	7.6	740827	24
GR08	10.7	741118	24	10.0	740317	24
GR11	13.6	741030	24	10.2	740629	24
GR12	12.8	740210	24	11.2	740819	24
GR14	23.8	740729	24	19.9	740728	24
GR15	14.6	740228	24	13.2	740718	24
GR16	14.6	740125	24	11.7	741224	24

WALDEN DIV. OF ABCOR, INC.
NEWPORT PSD RESULTS - SCENARIO 1
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND	MAX VALUE	DATE	HOUR
GR18	21.0	740913	24		20.4	741121	24
GR19	13.1	740307	24		12.0	740807	24
GR21	41.9	740625	24		24.1	741112	24
GR22	22.1	740122	24		19.2	740317	24
GR23	14.1	740709	24		12.4	741005	24
GR24	9.9	740104	24		9.9	740709	24
GR25	17.7	741203	24		17.1	740311	24
GR26	15.1	740406	24		13.0	740401	24
GR27	9.9	741128	24		9.6	741225	24
GR28	23.7	740208	24		21.0	740904	24
GR29	15.5	740720	24		14.7	740504	24
GR30	14.6	740112	24		12.1	740226	24
GR31	12.7	740406	24		11.6	740218	24
GR32	11.3	740406	24		9.2	740311	24
GR33	13.9	740203	24		12.1	741107	24
GR34	32.9	740625	24		21.4	741016	24
GR35	27.4	741216	24		19.7	740628	24
GR36	10.8	740506	24		9.5	740607	24
MO01	36.5	740226	24		31.5	740313	24
MO02	7.6	740614	24		6.7	740406	24
LR01	6.7	740406	24		6.2	741120	24
LR02	7.0	741008	24		6.7	740406	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 62.7 MICROGRAMS PER CUBIC METER, ON 740203 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD2

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 62.0 MICROGRAMS PER CUBIC METER, ON 740902 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD2

WALDEN DIV. OF AHCOR, INC.
NEWPORT PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
NEWPORT PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD. DEV.		GEO- MEAN
			5.	10.	20.	40.	60.	80.	100.	150.	200.	4.4	9.2		
01	100.0	30.7	21.8	17.0	8.9	0.7	0.1	0.0	0.0	0.0	0.0	4.4	9.2	N/A	
02	100.0	32.6	17.3	12.0	7.7	4.6	2.4	0.9	0.0	0.0	0.0	5.4	15.5	N/A	
03	100.0	36.4	24.8	18.2	12.1	5.5	1.9	0.6	0.0	0.0	0.0	6.8	15.0	N/A	
04	100.0	50.3	33.5	24.2	15.1	6.3	1.7	0.7	0.0	0.0	0.0	8.6	15.7	N/A	
05	100.0	48.7	30.2	18.2	11.6	4.0	0.8	0.2	0.0	0.0	0.0	6.1	11.0	N/A	
06	100.0	53.1	29.0	18.0	9.9	2.2	0.5	0.0	0.0	0.0	0.0	4.9	12.1	N/A	
07	100.0	41.8	19.7	12.0	7.0	3.2	1.1	0.4	0.0	0.0	0.0	5.4	11.3	N/A	
08	100.0	45.1	24.0	16.5	8.9	2.4	0.9	0.2	0.0	0.0	0.0	5.7	9.7	N/A	
09	100.0	52.4	28.7	19.5	9.1	1.4	0.1	0.0	0.0	0.0	0.0	5.1	8.0	N/A	
10	100.0	54.7	29.8	18.7	6.4	0.5	0.1	0.0	0.0	0.0	0.0	6.1	11.3	N/A	
11	100.0	50.6	28.6	19.5	9.3	2.5	0.8	0.1	0.0	0.0	0.0	4.3	8.4	N/A	
12	100.0	49.1	22.3	13.2	5.7	1.0	0.2	0.0	0.0	0.0	0.0	4.6	9.4	N/A	
13	100.0	37.9	23.8	15.7	7.5	1.4	0.1	0.0	0.0	0.0	0.0	4.1	13.4	N/A	
14	100.0	30.5	12.8	7.9	5.5	3.4	1.7	0.8	0.3	0.0	0.0	2.1	6.0	N/A	
15	100.0	29.5	10.3	5.4	2.2	0.6	0.1	0.1	0.0	0.0	0.0	6.8	14.5	N/A	
16	100.0	50.1	26.8	17.0	10.2	4.7	1.9	0.9	0.1	0.0	0.0	4.3	8.2	N/A	
17	100.0	47.0	22.0	14.3	5.5	0.7	0.1	0.0	0.0	0.0	0.0	4.5	9.1	N/A	
18	100.0	44.8	20.4	13.6	6.6	1.6	0.3	0.1	0.0	0.0	0.0	3.8	5.8	N/A	
19	100.0	38.5	16.1	11.3	5.9	1.5	0.4	0.1	0.0	0.0	0.0	3.0	3.0	N/A	
20	100.0	42.1	17.5	9.6	2.4	0.1	0.0	0.0	0.0	0.0	0.0	2.7	4.8	N/A	
21	100.0	42.0	17.1	8.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	3.2	5.4	N/A	
22	100.0	47.0	20.3	10.1	2.4	0.0	0.0	0.0	0.0	0.0	0.0	3.5	5.5	N/A	
23	100.0	51.0	22.9	11.3	2.6	0.0	0.0	0.0	0.0	0.0	0.0	3.7	8.4	N/A	
24	100.0	46.5	20.0	10.5	3.7	0.9	0.3	0.2	0.1	0.0	0.0	3.7	6.1	N/A	
25	100.0	49.1	24.1	11.5	3.0	0.2	0.0	0.0	0.0	0.0	0.0	4.3	7.7	N/A	
26	100.0	51.5	23.2	14.0	5.4	0.8	0.0	0.0	0.0	0.0	0.0	4.8	8.1	N/A	
27	100.0	50.8	26.9	17.0	6.5	0.6	0.1	0.0	0.0	0.0	0.0	4.8	8.2	N/A	
28	100.0	48.1	23.5	13.2	4.0	0.4	0.0	0.0	0.0	0.0	0.0	4.7	6.5	N/A	
29	100.0	51.9	24.1	15.8	7.4	0.7	0.0	0.0	0.0	0.0	0.0	3.9	7.5	N/A	
30	100.0	46.4	21.1	12.3	3.8	0.2	0.0	0.0	0.0	0.0	0.0	2.9	5.3	N/A	
31	100.0	32.3	14.1	8.7	4.3	0.8	0.2	0.0	0.0	0.0	0.0	4.2	7.6	N/A	
32	100.0	47.4	24.5	14.3	4.8	0.7	0.0	0.0	0.0	0.0	0.0	2.7	5.3	N/A	
33	100.0	38.2	17.6	9.1	1.8	0.1	0.0	0.0	0.0	0.0	0.0	2.2	4.2	N/A	
34	100.0	36.1	14.7	6.0	0.9	0.1	0.0	0.0	0.0	0.0	0.0	4.0	7.8	N/A	
35	100.0	39.2	23.1	14.5	5.5	0.6	0.1	0.0	0.0	0.0	0.0	4.0	7.8	N/A	

WALDEN DIV. OF ARCOR, INC.
NEWPORT PSD RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR18	61.3	740816	24	54.6	740913	24
GR19	48.5	740206	21	48.2	740807	6
GR21	75.1	741016	8	70.6	740625	21
GR22	66.1	741005	3	58.7	740807	24
GR23	51.2	740807	24	50.8	741210	3
GR24	43.4	740807	24	40.5	741210	3
GR25	67.4	740927	3	66.7	740216	3
GR26	57.1	740818	6	49.0	740106	24
GR27	48.4	740922	24	38.1	740908	6
GR28	60.4	740603	3	53.1	741201	9
GR29	52.7	740312	3	52.3	740720	24
GR30	50.3	740210	6	43.1	740210	3
GR31	50.0	741212	3	37.3	741019	3
GR32	50.4	740927	3	33.1	741212	3
GR33	48.8	741016	3	47.3	740331	9
GR34	98.8	741103	6	73.9	740530	3
GR35	79.9	741216	12	73.1	740509	24
GR36	58.0	741031	6	42.6	740607	21
M001	92.5	740112	15	90.5	741122	9
M002	35.7	740614	3	30.1	740111	12
LR01	33.5	740723	24	30.1	740111	12
LR02	30.6	741008	21	30.1	740111	12

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 168.3 MICROGRAMS PER CUBIC METER, ON 740117 AT HOUR 9 FOR
SULFUR DIOXIDE SITE CD2

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 141.1 MICROGRAMS PER CUBIC METER, ON 740814 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD2

WALDEN DIV. OF ARCOR, INC.
NEWPORT PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
NEWPORT PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD 15 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	67.7	740312	3	60.4	740104	18
CD2	160.3	740117	9	141.1	740814	24
CD3	116.0	740510	21	104.4	740208	24
CD4	135.2	740122	15	112.3	741116	12
CD5	122.6	740420	24	98.8	741122	9
CD6	93.7	740420	24	79.7	741121	21
CD7	110.9	740601	3	106.8	741014	21
CD8	102.4	740404	21	90.2	740601	3
CD9	79.8	740510	21	72.3	741221	12
CD10	70.5	740306	9	68.0	740107	9
CD11	93.4	741018	15	92.6	741204	21
CD12	98.4	740424	24	69.8	740127	18
IN01	71.0	740319	18	67.0	740324	18
IN02	131.3	740606	21	128.6	740530	9
IN03	91.7	740507	18	81.7	740303	21
IN04	117.4	740115	3	108.7	740404	24
IN05	176.2	740623	18	73.3	741016	3
IN06	94.9	740920	21	80.7	741030	12
IN07	85.9	740718	21	83.8	740827	18
GR03	38.5	741030	3	57.8	740130	24
GR04	38.6	740222	6	38.0	741211	24
GR07	44.6	740912	6	39.7	740126	24
GR08	40.6	740916	6	37.1	740708	24
GR11	128.7	740616	9	126.2	740303	15
GR12	64.6	740810	24	52.5	740909	21
GR14	58.7	740421	3	55.1	740921	9
GR15	71.9	740909	21	67.5	740819	24
GR16	57.6	740818	24	53.3	740821	24

WALDEN DIV. OF ABCOR, INC.
NEWPORT PSD RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
NEWPORT PSD PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	26.4	740711	24	24.3	741003	24
CD2	65.1	740203	24	63.9	740902	24
CD3	49.9	740904	24	48.5	740117	24
CD4	53.9	740122	24	46.9	740223	24
CD5	38.5	740317	24	35.5	740313	24
CD6	39.1	741121	24	31.4	740317	24
CD7	36.1	740817	24	34.4	740827	24
CD8	33.5	740827	24	32.7	740817	24
CD9	25.5	740904	24	25.4	741214	24
CD10	17.1	740107	24	16.8	740317	24
CD11	34.4	740711	24	33.3	740117	24
CD12	38.6	740317	24	19.9	740322	24
IN01	26.9	740205	24	26.9	740416	24
IN02	56.5	740625	24	41.3	741112	24
IN03	17.6	740303	24	14.2	740506	24
IN04	42.9	740421	24	40.8	740803	24
IN05	21.3	740629	24	19.1	740203	24
IN06	29.8	740920	24	26.7	741030	24
IN07	25.2	740912	24	22.7	740605	24
GR03	21.1	741030	24	15.6	740130	24
GR04	12.9	740228	24	11.5	740721	24
GR07	13.4	740324	24	12.2	740621	24
GR08	13.4	741118	24	12.0	741224	24
GR11	41.7	740616	24	29.1	740303	24
GR12	14.0	740210	24	12.8	740819	24
GR14	24.3	740729	24	20.7	740728	24
GR15	15.9	740228	24	15.6	740917	24
GR16	16.6	741224	24	15.1	740125	24

WALDEN DIV. OF ABCOR, INC.
NEWPORT PSD RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR18	22.6	740913	24	21.3	741121	24
GR19	13.6	740307	24	13.6	740406	24
GR21	42.0	740625	24	25.5	741112	24
GR22	22.3	740122	24	21.7	740406	24
GR23	14.5	740709	24	13.0	741005	24
GR24	10.7	740406	24	10.4	740104	24
GR25	29.3	740406	24	21.4	741203	24
GR26	21.0	740406	24	14.7	741128	24
GR27	14.9	740406	24	11.9	741128	24
GR28	25.7	740208	24	23.1	740904	24
GR29	16.0	741106	24	17.6	740720	24
GR30	19.1	740406	24	16.6	740112	24
GR31	19.6	740406	24	13.3	740218	24
GR32	18.4	740406	24	10.6	740311	24
GR33	15.1	740203	24	13.8	740903	24
GR34	33.1	740625	24	22.8	741016	24
GR35	28.3	741216	24	20.7	740628	24
GR36	11.3	740506	24	11.3	740607	24
MO01	36.7	740226	24	31.6	740313	24
MO02	10.6	740406	24	7.9	740614	24
LR01	10.6	740406	24	6.6	741120	24
LR02	10.6	740406	24	7.7	741008	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 65.1 MICROGRAMS PER CUBIC METER, ON 740203 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD2

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 63.9 MICROGRAMS PER CUBIC METER, ON 740902 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD2

WALDEN DIV. OF ABCOR, INC.
NEWPORT NAAQS RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
NEWPORT NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	211.4	741106	9	203.0	740111	6
CD2	385.0	740111	6	347.4	740117	9
CD3	285.5	740111	6	278.8	741108	21
CD4	247.9	740122	15	241.8	741108	21
CD5	231.8	741101	24	224.8	740429	24
CD6	203.8	740111	6	203.0	741101	24
CD7	220.4	741104	6	203.4	740111	6
CD8	225.1	740111	6	213.2	741104	9
CD9	511.4	740926	6	467.8	740926	3
CD10	489.2	740926	6	445.0	740926	3
CD11	489.2	740926	6	445.0	740926	3
CD12	489.2	740926	6	445.0	740926	3
IN01	203.3	740111	6	176.2	740926	3
IN02	240.7	740606	21	235.7	740602	24
IN03	203.3	740111	6	198.0	740530	9
IN04	215.1	740115	3	205.4	740602	24
IN05	489.5	740926	6	447.4	740111	6
IN06	489.2	740926	6	445.0	740926	3
IN07	489.2	740926	6	445.0	740926	3
GR03	489.2	740926	6	445.0	740926	3
GR04	489.2	740926	6	445.0	740926	3
GR07	489.2	740926	6	445.0	740926	3
GR08	489.2	740926	6	445.0	740926	3
GR11	489.2	740926	6	445.0	740926	3
GR12	489.2	740926	6	445.0	740926	3
GR14	489.2	740926	6	445.0	740926	3
GR15	489.2	740926	6	445.0	740926	3
GR16	489.2	740926	6	445.0	740926	3

WALDEN DIV. OF ANCUR, INC.
NEWPORT NAAGS RESULTS - SCENARIO 2
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR18	489.2	740926	6	460.2	740926	3
GR19	409.2	740926	6	446.1	740926	3
GR21	210.7	740111	6	192.0	740926	6
GR22	203.3	740111	6	182.2	741101	24
GR23	203.3	740111	6	176.2	740602	24
GR24	203.3	740111	6	176.2	740602	24
GR25	203.3	740111	6	176.2	740602	24
GR26	203.3	740111	6	176.2	740602	24
GR27	203.3	740111	6	176.2	740602	24
GR28	217.9	740111	6	191.1	740602	24
GR29	216.9	741106	9	203.3	740111	6
GR30	203.3	740111	6	176.2	740602	24
GR31	203.3	740111	6	176.2	740602	24
GR32	203.3	740111	6	176.2	740602	24
GR33	232.2	740111	6	205.6	740331	9
GR34	203.4	740111	6	196.5	740903	6
GR35	203.3	740111	6	194.8	740602	24
GR36	203.3	740111	6	176.2	740602	24
MO01	206.9	740111	6	183.2	740602	24
MO02	489.2	740926	6	445.0	740926	3
LR01	489.2	740926	6	445.0	740926	3
LR02	489.2	740926	6	445.0	740926	3

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 511.4 MICROGRAMS PER CUBIC METER, ON 740926 AT HOUR 6 FOR
SULFUR DIOXIDE SITE C09

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 467.8 MICROGRAMS PER CUBIC METER, ON 740926 AT HOUR 3 FOR
SULFUR DIOXIDE SITE C09

WALDEN DIV. OF ABCUR, INC.
NEWPORT NAAQS RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION, MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
NEWPORT NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD. DEV.		GEOM MEAN	
	-999.	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.			
01	100.0	35.9	29.5	26.3	21.1	11.6	5.2	2.9	1.3	0.2	0.1	11.8	23.7	N/A
02	100.0	37.9	22.7	17.5	13.9	10.1	7.9	6.6	4.9	2.4	1.3	14.1	40.3	N/A
03	100.0	39.6	28.4	23.4	19.0	15.2	11.4	8.1	5.3	1.4	0.2	16.4	36.2	N/A
04	100.0	55.3	41.4	32.8	25.6	18.5	12.9	8.3	4.4	0.8	0.1	19.3	33.8	N/A
05	100.0	53.0	40.8	31.5	23.4	16.3	10.1	5.4	2.3	0.4	0.1	16.3	29.1	N/A
06	100.0	59.9	40.8	30.4	22.5	14.0	7.2	4.1	1.8	0.2	0.1	14.7	25.8	N/A
07	100.0	51.3	31.5	24.5	17.8	11.5	7.6	4.7	2.6	0.5	0.1	13.1	27.8	N/A
08	100.0	51.7	33.4	26.8	20.4	12.8	7.3	4.3	2.2	0.3	0.2	13.6	26.9	N/A
09	100.0	59.5	40.4	31.2	21.2	9.0	5.0	3.2	2.3	1.1	0.4	14.1	30.9	N/A
10	100.0	64.8	45.2	34.0	19.8	8.6	4.3	2.6	2.2	1.0	0.4	13.9	29.0	N/A
11	100.0	60.8	41.3	32.1	21.4	12.9	8.3	5.3	3.5	1.2	0.4	16.4	33.7	N/A
12	100.0	64.4	39.2	27.3	17.3	10.1	5.7	3.1	2.5	1.0	0.4	13.5	30.4	N/A
01	100.0	44.4	36.6	28.7	20.8	10.6	5.2	2.9	1.2	0.2	0.0	12.1	23.0	N/A
02	100.0	39.9	24.1	18.8	14.3	9.9	7.1	5.5	3.4	1.1	0.2	11.8	30.3	N/A
03	100.0	40.6	23.1	16.8	11.8	6.7	3.8	2.4	1.0	0.2	0.0	8.1	20.7	N/A
04	100.0	55.9	37.8	28.6	21.7	14.3	9.4	6.0	3.4	1.0	0.1	16.0	31.1	N/A
05	100.0	55.6	32.8	24.0	16.4	8.6	5.5	3.4	2.4	1.4	0.6	12.7	32.2	N/A
06	100.0	57.2	34.7	26.3	19.0	9.8	5.3	2.7	2.2	1.0	0.4	13.0	30.0	N/A
07	100.0	54.5	32.1	24.0	17.5	9.9	5.5	3.2	2.5	1.0	0.4	12.7	30.5	N/A
08	100.0	59.0	35.2	25.0	15.3	6.8	3.8	2.5	2.1	1.0	0.4	11.4	28.4	N/A
09	100.0	58.2	34.4	23.7	12.9	6.3	3.8	2.4	2.1	1.0	0.4	10.8	28.1	N/A
10	100.0	63.0	36.8	25.1	13.8	6.0	3.7	2.5	2.1	1.0	0.4	11.2	28.0	N/A
11	100.0	65.7	39.8	26.8	15.1	7.1	4.4	2.6	2.1	1.0	0.4	12.0	28.3	N/A
12	100.0	59.7	36.0	26.3	16.1	7.9	4.4	2.6	2.2	1.0	0.4	12.1	28.9	N/A
01	100.0	62.7	40.4	28.1	16.0	7.5	4.4	2.6	2.1	1.0	0.4	12.3	28.6	N/A
02	100.0	63.8	40.4	28.3	19.1	9.7	5.4	3.0	2.2	1.0	0.4	13.7	29.9	N/A
03	100.0	60.8	42.6	32.3	19.5	9.6	5.2	2.7	2.3	1.0	0.4	13.8	29.3	N/A
04	100.0	60.5	39.5	27.4	16.6	8.2	4.8	2.7	2.2	1.0	0.4	12.6	29.6	N/A
05	100.0	64.2	41.1	30.2	21.3	11.4	5.3	2.7	2.2	1.0	0.4	14.4	30.0	N/A
06	100.0	59.1	36.8	26.7	17.9	8.4	4.2	2.6	2.1	1.0	0.4	12.4	28.9	N/A
07	100.0	39.6	23.7	18.5	14.2	9.0	4.9	3.2	1.5	0.2	0.0	11.5	21.6	N/A
08	100.0	56.9	37.5	28.0	19.3	8.7	4.0	2.7	1.1	0.2	0.0	9.1	19.6	N/A
09	100.0	49.2	31.3	22.6	14.5	6.3	3.2	2.2	0.9	0.2	0.0	8.1	18.9	N/A
10	100.0	46.7	29.0	20.2	11.2	5.6	3.1	2.1	0.9	0.2	0.0	11.2	21.7	N/A
11	100.0	47.4	36.2	28.2	19.0	8.7	4.3	2.4	1.1	0.2	0.0			

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WALDEN DIV. OF ABCOR, INC.
NEWPORT NAAS RESULTS - SCENARIO 2
TABLE

RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE	5.	10.	20.	40.	60.	80.	100.	150.	200.	ARITHMETIC MEAN STD.DEV.	GEOM. MEAN S
1	100.0	47.8	32.8	24.3	14.5	6.6	3.2	2.1	1.0	0.9	0.2	0.0	9.4	19.9
2	100.0	46.1	29.6	20.7	11.8	5.5	3.0	2.1	0.9	0.9	0.2	0.0	8.3	10.9
3	100.0	34.5	24.6	20.8	16.7	10.2	6.1	3.5	1.9	1.9	0.2	0.0	10.7	24.9
4	100.0	35.2	26.8	21.9	15.7	8.1	3.9	2.3	1.1	1.1	0.2	0.1	9.4	21.5
5	100.0	38.7	30.4	23.7	15.4	6.8	3.2	2.1	0.9	0.9	0.2	0.0	9.1	20.0
6	100.0	42.2	31.2	23.5	13.6	6.0	3.1	2.1	0.9	0.9	0.2	0.0	8.9	19.5
7	100.0	45.0	30.4	20.6	12.0	5.5	3.0	2.1	0.9	0.9	0.2	0.0	8.3	19.0
8	100.0	35.4	19.1	14.8	11.0	6.9	4.4	2.9	1.6	1.6	0.3	0.1	8.1	22.6
9	100.0	38.8	22.7	17.3	13.0	8.9	5.6	3.3	1.6	1.6	0.3	0.0	9.5	23.7
10	100.0	39.8	22.6	17.3	12.3	7.2	4.2	2.6	1.1	1.1	0.2	0.0	8.3	21.0
11	100.0	42.4	23.8	16.2	10.7	6.0	3.2	2.2	0.9	0.9	0.2	0.0	7.6	19.2
12	100.0	40.1	34.1	29.6	23.6	15.6	9.2	4.9	2.5	2.5	0.2	0.0	15.1	28.4
13	100.0	58.5	31.8	18.9	10.8	5.9	3.7	2.4	2.1	2.1	1.0	0.4	10.0	27.9
14	100.0	49.8	24.5	15.0	9.5	5.8	3.7	2.4	2.1	2.1	1.0	0.4	8.9	27.8
15	100.0	45.4	21.9	13.7	9.1	5.8	3.7	2.5	2.1	2.1	1.0	0.4	8.5	27.8

WALDEN DIV. OF ABCOR, INC.
NEWPORT NAAQS RESULTS - SCENARIO 2

TABLE

SEQUENTIAL AVERAGES
NEWPORT NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	84.0	741106	24	75.6	740203	24
CD2	190.2	740203	24	172.7	740902	24
CD3	115.9	740203	24	109.9	741108	24
CD4	98.7	740122	24	91.9	741108	24
CD5	76.8	740203	24	73.1	741104	24
CD6	88.9	741101	24	75.6	740203	24
CD7	85.1	741104	24	75.7	740203	24
CD8	82.5	740203	24	76.1	741104	24
CD9	128.1	740926	24	124.6	740203	24
CD10	125.8	740926	24	115.9	740203	24
CD11	120.4	740203	24	120.0	740926	24
CD12	120.6	740926	24	114.6	740203	24
IN01	73.8	740203	24	70.9	741106	24
IN02	103.6	740625	24	94.0	740626	24
IN03	73.6	740203	24	59.4	740902	24
IN04	78.7	741104	24	78.6	740421	24
IN05	132.5	740203	24	121.0	740926	24
IN06	120.0	740926	24	115.6	740203	24
IN07	120.0	740926	24	114.6	740203	24
GR03	120.0	740926	24	114.6	740203	24
GR04	120.0	740926	24	114.6	740203	24
GR07	120.0	740926	24	114.6	740203	24
GR08	123.6	740926	24	114.6	740203	24
GR11	120.0	740926	24	115.5	740203	24
GR12	122.0	740926	24	114.6	740203	24
GR14	120.0	740926	24	114.9	740203	24
GR15	121.4	740926	24	115.6	740203	24
GR16	131.3	740926	24	114.6	740203	24

WALDEN DIV. OF ABCOR, INC.
NEWPORT NAAGS RESULTS - SCENARIO 2
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND	MAX VALUE	DATE	HOUR
GR18	132.4	740926	24		115.0	740203	24
GR19	127.4	740926	24		114.6	740203	24
GR21	80.6	740902	24		77.6	740203	24
GR22	73.5	740203	24		57.4	740902	24
GR23	73.2	740203	24		57.4	740902	24
GR24	73.2	740203	24		57.4	740902	24
GR25	73.4	740203	24		59.0	741106	24
GR26	73.2	740203	24		61.2	741106	24
GR27	73.2	740203	24		57.4	740902	24
GR28	93.5	740203	24		85.2	740110	24
GR29	78.0	741106	24		73.9	740203	24
GR30	73.3	740203	24		58.4	740111	24
GR31	73.2	740203	24		63.5	741106	24
GR32	73.2	740203	24		57.5	741106	24
GR33	99.8	740203	24		77.0	740902	24
GR34	94.3	740902	24		79.7	740203	24
GR35	73.5	740203	24		60.9	740902	24
GR36	73.4	740203	24		59.9	740902	24
MU01	86.5	740203	24		82.7	740110	24
MO02	120.0	740926	24		114.6	740203	24
LR01	120.0	740926	24		114.6	740203	24
LR02	120.0	740926	24		114.6	740203	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 190.2 MICROGRAMS PER CUBIC METER, ON 740203 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD2

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 172.7 MICROGRAMS PER CUBIC METER, ON 740902 AT HOUR 24 FOR
SULFUR DIOXIDE SITE CD2

WALDEN DIV. OF ANCOR, INC.
NEWPORT NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
NEWPORT NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	211.6	741106	9	203.8	740111	6
CD2	390.6	740111	6	353.1	740117	9
CD3	290.4	740111	6	278.0	741108	21
CD4	247.9	740122	15	241.9	741108	21
CD5	231.8	741101	24	224.8	740429	24
CD6	203.8	740111	6	203.0	741101	24
CD7	220.4	741104	6	203.6	740111	6
CD8	244.8	740111	6	238.7	740111	6
CD9	511.4	740926	6	469.0	740926	6
CD10	489.2	740926	6	446.2	740926	3
CD11	489.2	740926	6	446.2	740926	3
CD12	489.2	740926	6	446.2	740926	3
IN01	203.3	740111	6	176.2	740926	3
IN02	240.7	740602	21	235.7	740602	24
IN03	213.9	740602	24	203.3	740530	9
IN04	215.1	740115	3	205.4	740111	6
IN05	489.8	740926	6	451.4	740111	6
IN06	489.2	740926	6	446.2	740926	3
IN07	489.2	740926	6	446.2	740926	3
GR03	489.2	740926	6	446.2	740926	3
GR04	489.2	740926	6	446.2	740926	3
GR07	489.2	740926	6	446.2	740926	3
GR08	489.2	740926	6	446.2	740926	3
GR11	489.2	740926	6	446.2	740926	3
GR12	489.2	740926	6	446.2	740926	3
GR14	489.2	740926	6	446.2	740926	3
GR15	489.2	740926	6	446.2	740926	3
GR16	489.2	740926	6	446.2	740926	3

WALDEN DIV. OF ABCOR, INC.
NEWPORT NAAS RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND	MAX VALUE	DATE	HOUR
GR18	489.2	740926	6		461.4	740926	3
GR19	489.2	740926	6		447.3	740926	3
GR21	217.0	740111	6		216.0	740926	6
GR22	203.3	740111	6		182.2	741101	24
GR23	203.3	740111	6		176.2	740602	24
GR24	203.3	740111	6		176.2	740602	24
GR25	203.3	740111	6		176.2	740602	24
GR26	203.3	740111	6		176.2	740602	24
GR27	203.3	740111	6		176.2	740602	24
GR28	225.8	740111	6		199.8	740926	6
GR29	222.5	741106	9		203.3	740111	6
GR30	203.3	740111	6		176.2	740602	24
GR31	203.3	740111	6		176.2	740602	24
GR32	203.3	740111	6		176.2	740602	24
GR33	234.3	740111	6		209.9	740331	9
GR34	203.6	740111	6		196.5	740903	6
GR35	208.8	740602	24		203.3	740111	6
GR36	203.3	740111	6		176.2	740602	24
MO01	207.3	740111	6		183.4	740602	24
LR01	489.2	740926	6		446.2	740926	3
LR02	489.2	740926	6		446.2	740926	3

THE LARGEST OF THE ABOVE MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 511.4 MICROGRAMS PER CUBIC METER. ON 740926 AT HOUR 6 FOR
SULFUR DIOXIDE SITE CD9

THE LARGEST OF THE ABOVE SECOND MAXIMUM 3-HOUR SEQUENTIAL AVERAGES
WAS 469.0 MICROGRAMS PER CUBIC METER. ON 740926 AT HOUR 3 FOR
SULFUR DIOXIDE SITE CD9

WALDEN DIV. OF ABCOR, INC.
NEWPORT NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
FREQUENCY DISTRIBUTION MEANS,
STANDARD DEVIATIONS, AND MAXIMA OF
NEWPORT NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 3 HOURS)

STATION/RECEPTOR	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD. DEV.		GEOM MEAN S	
	-999.	1.	5.	10.	20.	40.	60.	80.	100.	150.	200.			
01	100.0	37.9	30.5	27.2	22.5	13.4	6.0	3.1	1.5	0.2	0.1	12.8	24.9	N/A
02	100.0	40.7	24.4	19.0	14.1	10.3	8.1	6.6	5.1	2.4	1.4	14.6	40.9	N/A
03	100.0	42.1	30.2	26.3	20.1	15.4	11.6	8.3	5.5	1.5	0.2	17.1	36.8	N/A
04	100.0	57.9	44.5	37.7	28.6	19.1	13.5	8.4	4.5	0.8	0.1	20.5	34.1	N/A
05	100.0	55.5	44.4	36.0	24.7	16.6	10.2	5.5	2.3	0.4	0.1	17.1	29.2	N/A
06	100.0	62.4	45.4	35.1	24.6	14.6	7.5	4.2	1.9	0.2	0.1	15.8	26.0	N/A
07	100.0	54.3	34.5	26.5	18.5	11.7	7.8	4.9	2.6	0.6	0.1	13.7	28.0	N/A
08	100.0	61.8	35.2	28.1	21.8	13.4	8.2	4.7	2.6	0.5	0.2	14.6	28.6	N/A
09	100.0	67.7	43.4	33.5	25.1	14.1	7.9	4.6	2.9	1.2	0.4	17.1	33.6	N/A
10	100.0	63.4	44.3	36.9	24.2	11.5	5.4	3.1	2.4	1.0	0.4	16.0	30.3	N/A
11	100.0	67.3	43.3	30.6	19.8	10.5	5.9	3.1	2.5	1.0	0.4	14.5	30.6	N/A
12	100.0	46.3	38.8	31.0	21.8	11.6	5.9	3.3	1.4	0.2	0.0	13.2	24.1	N/A
13	100.0	42.6	25.9	19.0	14.6	10.0	7.1	5.6	3.4	1.1	0.2	12.2	30.5	N/A
14	100.0	43.4	24.8	18.0	12.2	7.1	3.9	2.5	1.1	0.2	0.1	8.5	21.1	N/A
15	100.0	58.0	42.1	32.5	24.0	14.9	9.5	6.3	3.5	1.0	0.1	17.1	31.3	N/A
16	100.0	58.5	35.2	25.2	17.4	9.9	6.5	4.5	3.1	1.7	0.8	14.4	36.1	N/A
17	100.0	60.1	36.8	27.8	20.4	12.0	7.3	3.7	2.7	1.0	0.4	14.8	32.0	N/A
18	100.0	57.1	34.2	24.8	18.4	10.9	6.3	3.6	2.2	1.1	0.4	13.6	31.4	N/A
19	100.0	61.5	37.1	26.3	16.4	7.8	4.1	2.6	2.2	1.0	0.4	12.1	28.8	N/A
20	100.0	60.5	36.6	25.5	14.9	6.6	4.0	2.4	2.1	1.0	0.4	11.5	28.3	N/A
21	100.0	65.9	40.4	28.4	17.1	7.3	3.9	2.5	2.1	1.0	0.4	12.5	28.5	N/A
22	100.0	68.4	44.3	30.6	17.3	7.6	4.1	2.5	2.1	1.0	0.4	13.0	28.6	N/A
23	100.0	62.7	38.3	27.8	17.6	9.2	5.5	3.3	2.7	1.2	0.5	13.4	30.9	N/A
24	100.0	66.2	44.2	31.9	18.0	8.1	4.5	2.6	2.1	1.0	0.4	13.3	30.2	N/A
25	100.0	66.3	43.0	31.0	21.0	10.4	5.7	3.1	2.2	1.0	0.4	14.6	30.2	N/A
26	100.0	63.5	45.9	35.0	23.7	11.1	5.7	2.9	2.4	1.0	0.4	15.4	30.2	N/A
27	100.0	64.4	43.7	31.3	19.8	8.8	5.0	2.8	2.2	1.0	0.4	13.7	29.5	N/A
28	100.0	66.6	45.2	32.2	22.6	12.3	5.5	2.8	2.2	1.0	0.4	15.3	30.2	N/A
29	100.0	41.9	29.2	19.1	19.1	9.0	4.3	2.7	2.1	1.0	0.4	13.3	29.1	N/A
30	100.0	42.5	25.7	19.8	14.9	9.3	5.1	3.3	1.6	0.2	0.1	10.0	23.6	N/A
31	100.0	59.4	42.5	31.2	20.5	9.1	4.1	2.8	1.1	0.2	0.0	12.4	21.9	N/A
32	100.0	52.0	35.5	24.5	15.3	6.4	3.2	2.2	0.9	0.2	0.0	9.7	19.8	N/A
33	100.0	50.1	32.5	21.8	12.3	5.7	3.1	2.1	0.9	0.2	0.0	8.7	19.0	N/A
34	100.0	49.4	38.0	30.3	20.1	9.4	4.5	2.5	1.2	0.2	0.0	12.0	22.3	N/A

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WALDEN DIV. OF ABCOR, INC.
NEWPORT NAAGS RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	-999.	1.	PERCENT GREATER THAN INDICATED VALUE										ARITHMETIC MEAN STD. DEV.		GEO MEAN
			5.	10.	20.	40.	60.	80.	100.	150.	200.	9.9	20.1		
R26	100.0	50.0	35.2	26.0	15.6	6.8	3.3	2.2	1.0	0.2	0.0	9.9	20.1	N/A	
R27	100.0	48.6	32.6	22.1	12.4	5.7	3.0	2.1	0.9	0.2	0.0	8.7	19.0	N/A	
R28	100.0	36.8	25.4	21.4	17.2	10.9	6.6	3.7	2.0	0.2	0.0	11.3	25.7	N/A	
R29	100.0	37.3	28.3	23.4	16.8	8.9	4.1	2.5	1.1	0.2	0.1	10.1	22.2	N/A	
R30	100.0	40.7	31.7	24.8	16.8	7.5	3.5	2.1	1.0	0.2	0.0	9.6	20.4	N/A	
R31	100.0	44.4	32.8	24.7	14.7	6.5	3.2	2.1	0.9	0.2	0.0	9.3	19.8	N/A	
R32	100.0	47.2	32.5	22.2	12.8	5.6	3.1	2.1	0.9	0.2	0.0	8.7	19.2	N/A	
R33	100.0	38.4	21.4	15.6	11.3	7.3	4.6	3.0	1.6	0.3	0.0	8.5	23.0	N/A	
R34	100.0	41.7	24.8	18.5	13.3	7.4	4.7	3.4	1.6	0.3	0.0	9.9	23.9	N/A	
R35	100.0	42.6	24.7	18.3	12.5	7.3	4.2	2.6	1.1	0.2	0.1	8.7	21.2	N/A	
R36	100.0	45.4	26.5	18.0	11.2	6.3	3.4	2.2	1.0	0.2	0.0	8.1	19.5	N/A	
R37	100.0	42.5	35.7	31.4	24.7	16.4	9.7	5.1	2.7	0.2	0.0	15.9	29.0	N/A	
R38	100.0	61.0	35.2	20.9	11.6	6.1	3.8	2.4	2.1	1.0	0.4	10.5	27.9	N/A	
R39	100.0	53.0	26.2	15.6	9.7	5.8	3.7	2.4	2.1	1.0	0.4	9.2	27.8	N/A	
R40	100.0	49.4	23.5	14.2	9.3	5.8	3.7	2.5	2.1	1.0	0.4	8.8	27.9	N/A	

WALDEN DIV. OF ABCOR, INC.
NEWPORT NAAQS RESULTS - SCENARIO 3

TABLE

SEQUENTIAL AVERAGES
NEWPORT NAAQS PREDICTIONS - RAM
SULFUR DIOXIDE
IN MICROGRAMS PER CUBIC METER
PERIOD: 740101 TO 741231
(AVERAGING PERIOD IS 24 HOURS)

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
CD1	86.8	741106	24	78.2	740111	24
CD2	192.6	740203	24	174.7	740902	24
CD3	118.1	740203	24	111.4	740110	24
CD4	98.8	740122	24	93.3	741108	24
CD5	77.9	740203	24	73.3	741104	24
CD6	89.0	741101	24	76.2	740203	24
CD7	85.1	741104	24	77.4	740203	24
CD8	89.6	740203	24	78.5	741104	24
CD9	129.8	740926	24	126.6	740203	24
CD10	128.8	740926	24	115.9	740203	24
CD11	120.4	740203	24	120.2	740926	24
CD12	120.7	740203	24	114.6	740203	24
IN01	73.8	740203	24	73.5	741106	24
IN02	103.9	740625	24	95.0	740626	24
IN03	73.6	740203	24	60.8	740902	24
IN04	78.8	741104	24	78.6	740203	24
IN05	149.6	740203	24	122.2	740926	24
IN06	120.1	740926	24	115.6	740203	24
IN07	120.1	740926	24	114.6	740203	24
GR03	120.1	740926	24	114.6	740203	24
GR04	120.1	740926	24	114.6	740203	24
GR07	120.1	740926	24	114.6	740203	24
GR08	125.4	740926	24	114.6	740203	24
GR11	120.1	740926	24	115.5	740203	24
GR12	122.9	740926	24	114.6	740203	24
GR14	120.1	740926	24	114.9	740203	24
GR15	122.3	740926	24	115.6	740203	24
GR16	134.6	740926	24	114.6	740203	24

WALDEN DIV. OF ARCOR, INC.
NEWPORT NAAS RESULTS - SCENARIO 3
TABLE

STATION/RECEPTOR	MAX VALUE	DATE	HOUR	SECOND MAX VALUE	DATE	HOUR
GR18	132.6	740926	24	115.0	740203	24
GR19	128.3	740926	24	114.6	740203	24
GR21	82.9	740902	24	80.5	740203	24
GR22	73.5	740203	24	57.5	741106	24
GR23	73.2	740203	24	57.4	740902	24
GR24	73.2	740203	24	57.4	740902	24
GR25	73.4	740203	24	60.8	741106	24
GR26	73.2	740203	24	62.0	741106	24
GR27	73.2	740203	24	57.4	740902	24
GR28	98.1	740203	24	88.4	740110	24
GR29	81.6	741106	24	74.3	740203	24
GR30	73.3	740203	24	60.6	740111	24
GR31	73.2	740203	24	64.7	741106	24
GR32	73.2	740203	24	58.0	741106	24
GR33	101.0	740203	24	79.1	740902	24
GR34	95.0	740902	24	80.5	740203	24
GR35	73.6	740203	24	61.9	740902	24
GR36	73.4	740203	24	61.1	740902	24
M001	88.9	740203	24	85.6	740110	24
M002	120.2	740926	24	114.6	740203	24
LR01	120.1	740926	24	114.6	740203	24
LR02	120.1	740926	24	114.6	740203	24

THE LARGEST OF THE ABOVE MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 192.6 MICROGRAMS PER CUBIC METER, ON 740203 AT HOUR 24 FOR
SULFUR DIOXIDE, SITE CD2

THE LARGEST OF THE ABOVE SECOND MAXIMUM 24-HOUR SEQUENTIAL AVERAGES
WAS 174.7 MICROGRAMS PER CUBIC METER, ON 740902 AT HOUR 24 FOR
SULFUR DIOXIDE, SITE CD2